COSC 1P50
Library Seminar
Fall 2024 term

Ian Gordon

Ian Gordon, Teaching & Learning Librarian

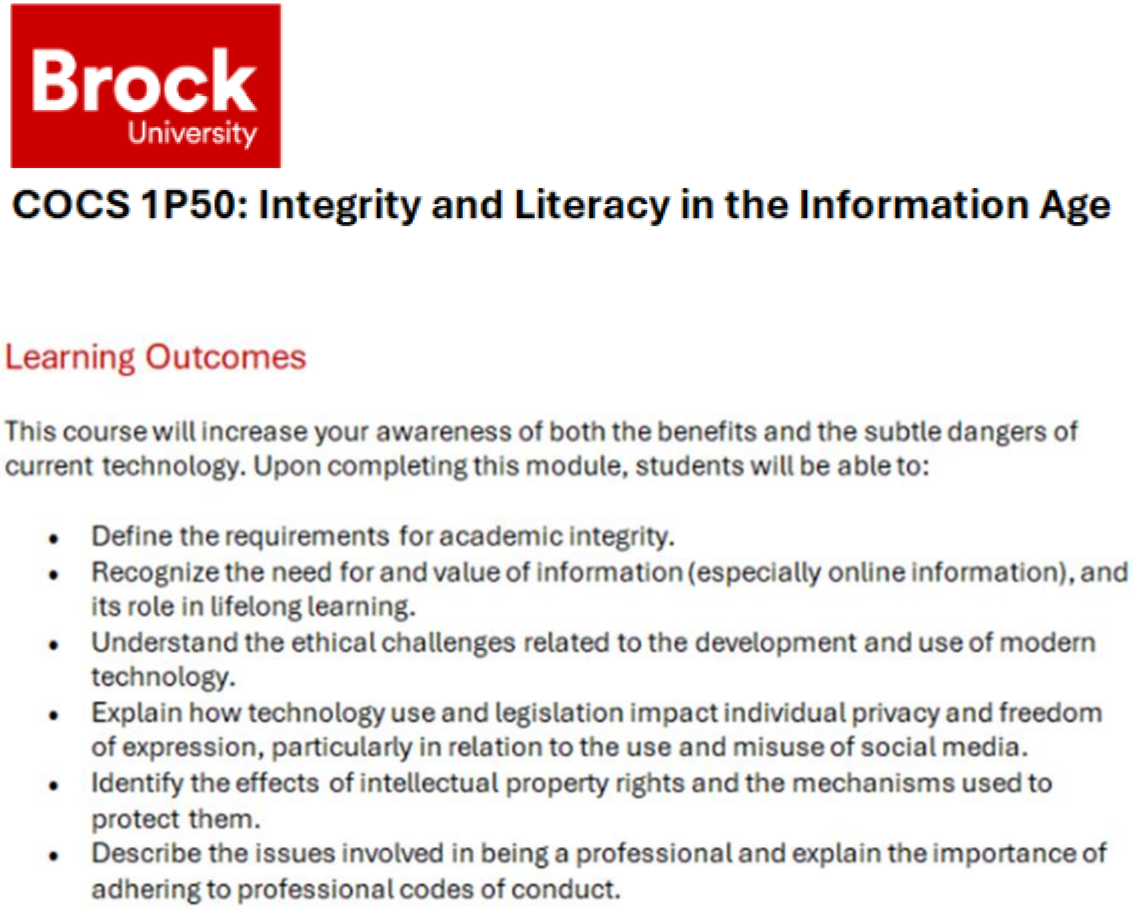
Brock University Library

Library Seminar Agenda

- COSC Library Research Guide
- Databases – lots of them!
- Citation management
- What does it mean to be information literate
- Where, how and when to get help

Top 10 resources you should know about!

1. Zoterobib
2. Zotero
3. Omni
4. Borrowing from Other Libraries
5. Brock Library COSC Library Research Guide
6. Google Scholar
7. Google Books
8. Advanced Google searching
9. When, where and how to get help!
10. Book a Consultation



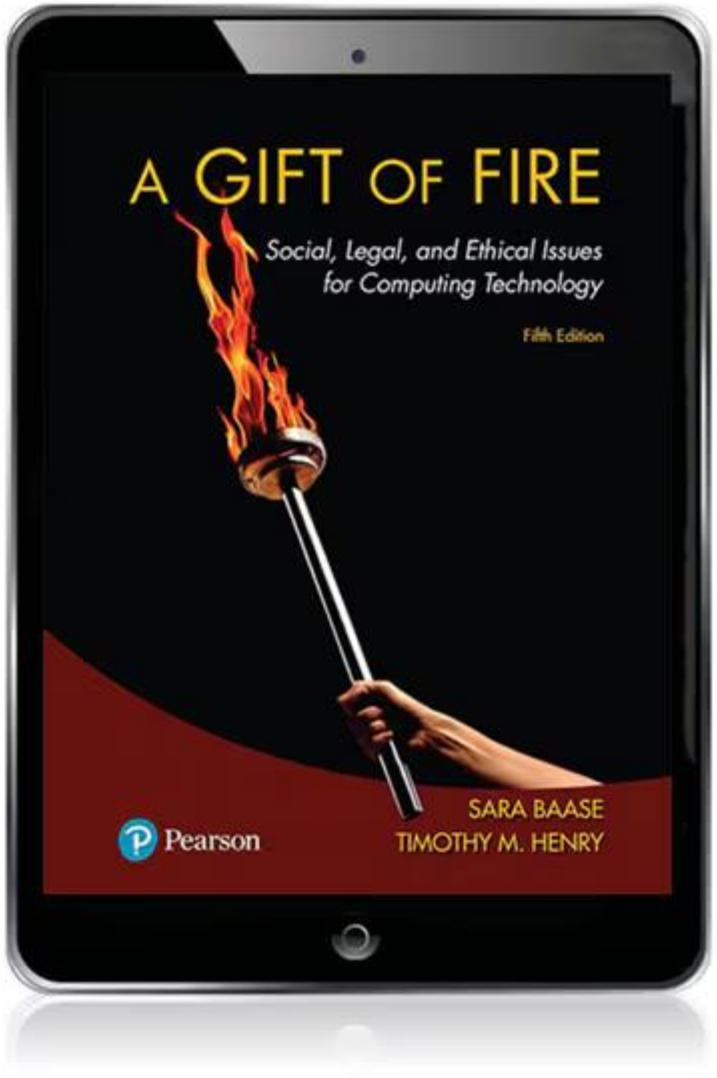
Brock University

COCS 1P50: Integrity and Literacy in the Information Age

Learning Outcomes

This course will increase your awareness of both the benefits and the subtle dangers of current technology. Upon completing this module, students will be able to:

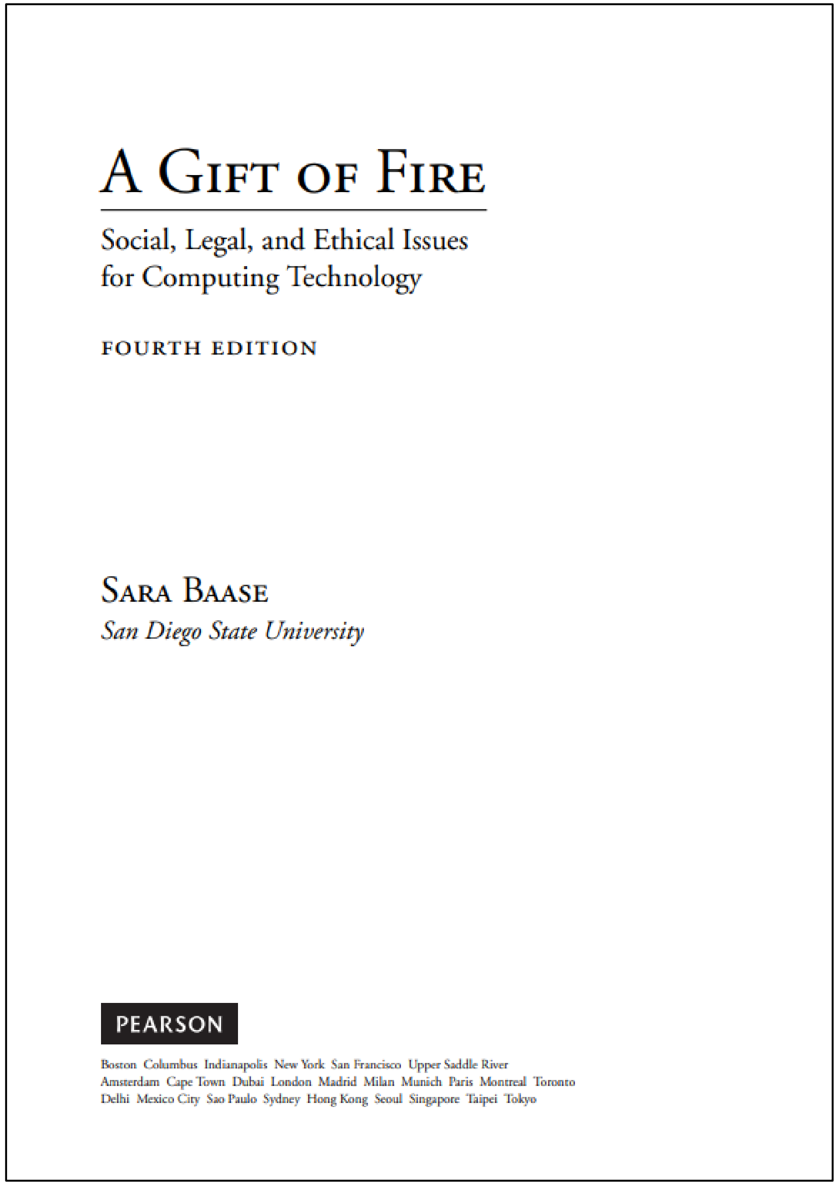
- Define the requirements for academic integrity.
- Recognize the need for and value of information (especially online information), and its role in lifelong learning.
- Understand the ethical challenges related to the development and use of modern technology.
- Explain how technology use and legislation impact individual privacy and freedom of expression, particularly in relation to the use and misuse of social media.
- Identify the effects of intellectual property rights and the mechanisms used to protect them.
- Describe the issues involved in being a professional and explain the importance of adhering to professional codes of conduct.



Baase, S., & Henry, T. (2018). A gift of fire : social, legal, and ethical issues for computing technology. Pearson.

On 3-hour Reserve at the Brock Library Ask Us Desk

QA 76.9 C66 B3 2018



A GIFT OF FIRE

Social, Legal, and Ethical Issues
for Computing Technology

FOURTH EDITION

SARA BAASE
San Diego State University

PEARSON
Boston Columbus Indianapolis New York San Francisco Upper Saddle River
Amsterdam Cape Town Dubai London Madrid Milan Munich Paris Montreal Toronto
Delhi Mexico City Sao Paulo Sydney Hong Kong Seoul Singapore Taipei Tokyo

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- Citation management
- What does it mean to be information literate
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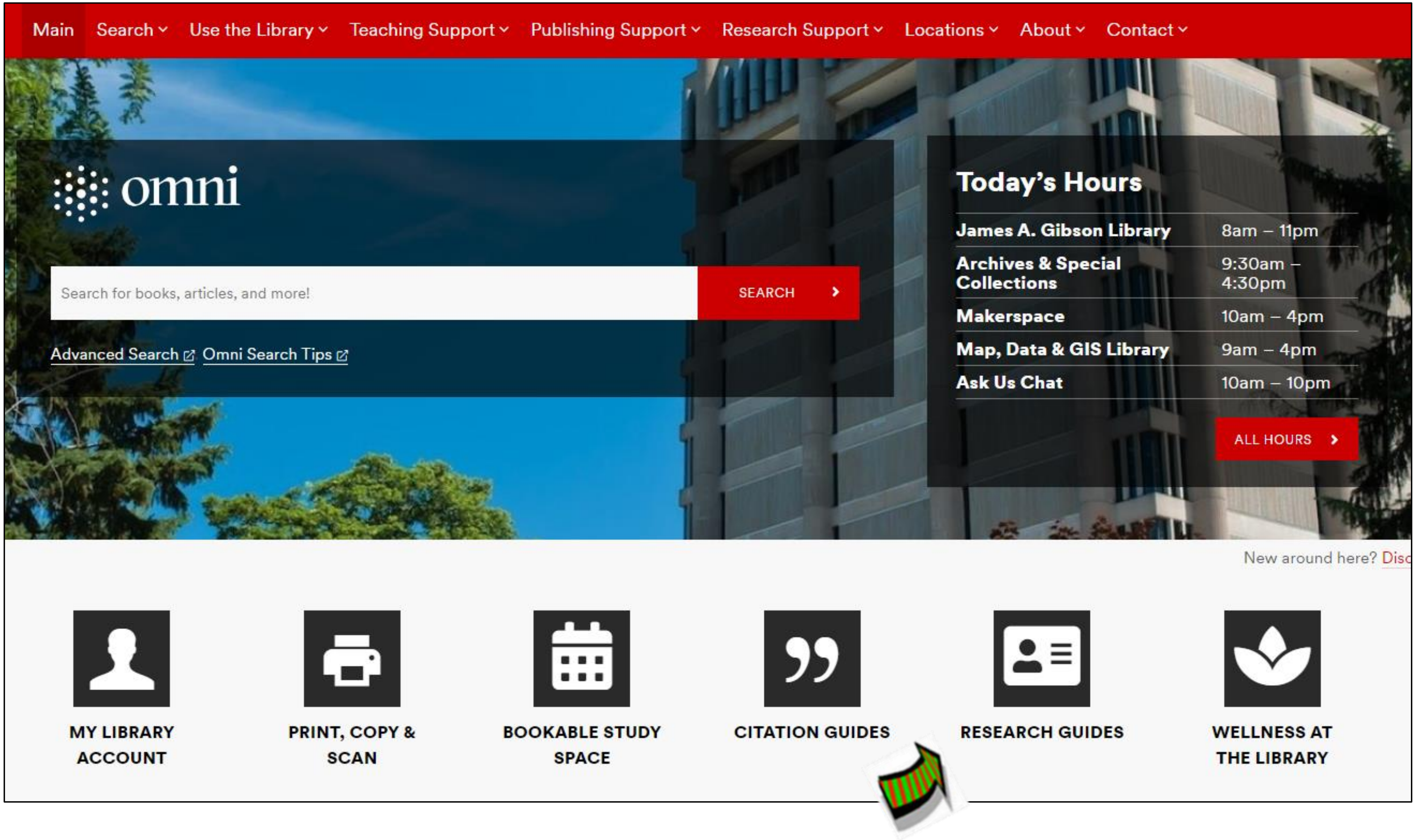
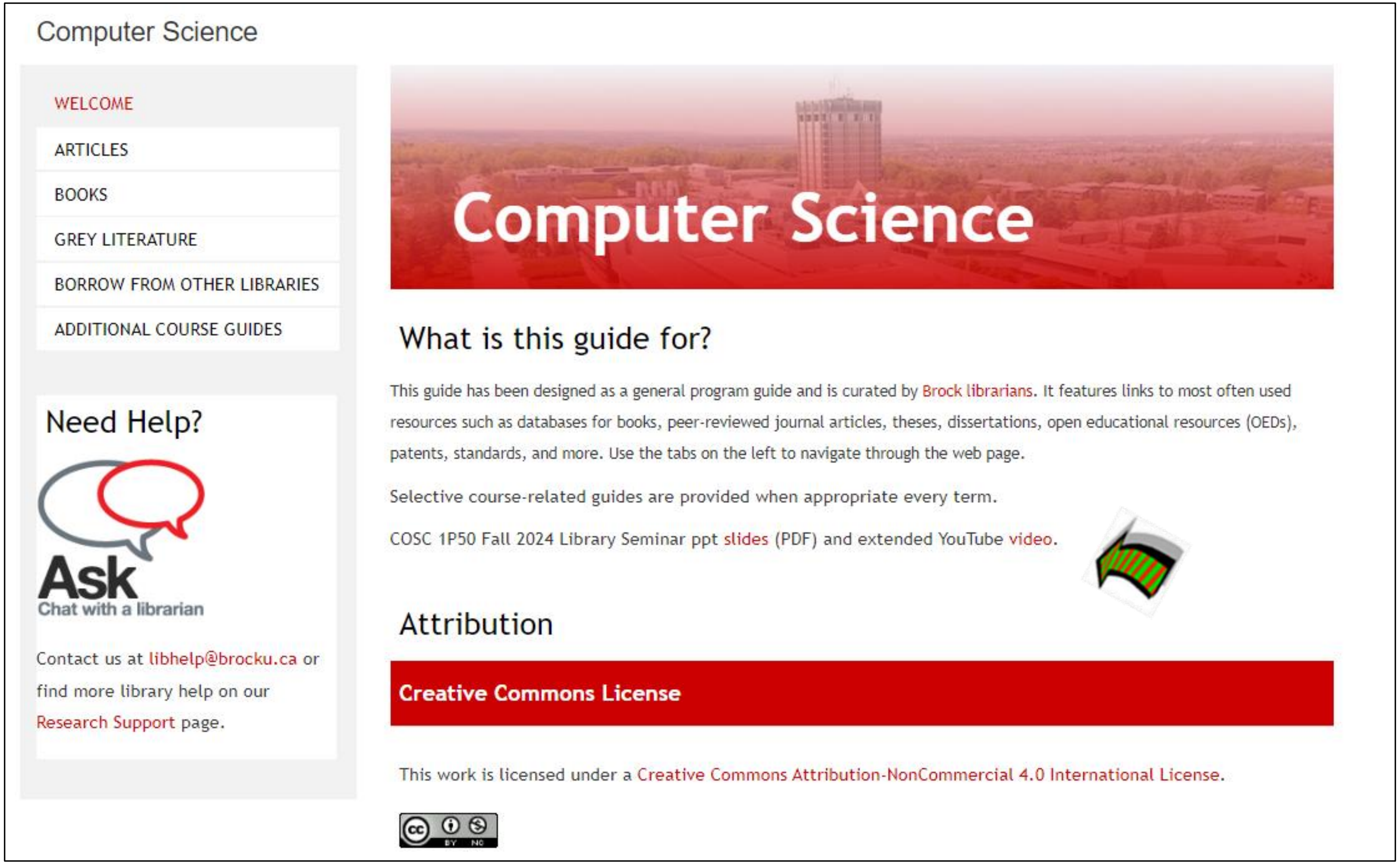
https://brocku.ca/library/



Today's Hours

James A. Gibson Library	8am – 11pm
Archives & Special Collections	9:30am – 4:30pm
Makerspace	10am – 4pm
Map, Data & GIS Library	9am – 4pm
Ask Us Chat	10am – 10pm

https://researchguides.library.brocku.ca/COSC



Computer Science

Need Help?

Contact us at libhelp@brocku.ca or find more library help on our Research Support page.

What is this guide for?

This guide has been designed as a general program guide and is curated by Brock librarians. It features links to most often used resources such as databases for books, peer-reviewed journal articles, theses, dissertations, open educational resources (OEDs), patents, standards, and more. Use the tabs on the left to navigate through the web page.

Selective course-related guides are provided when appropriate every term.

COSC 1P50 Fall 2024 Library Seminar ppt slides (PDF) and extended YouTube video.

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https://archive.org/details/cosc-1-p-50-fall-2023-ig/page/n1/mode/2up

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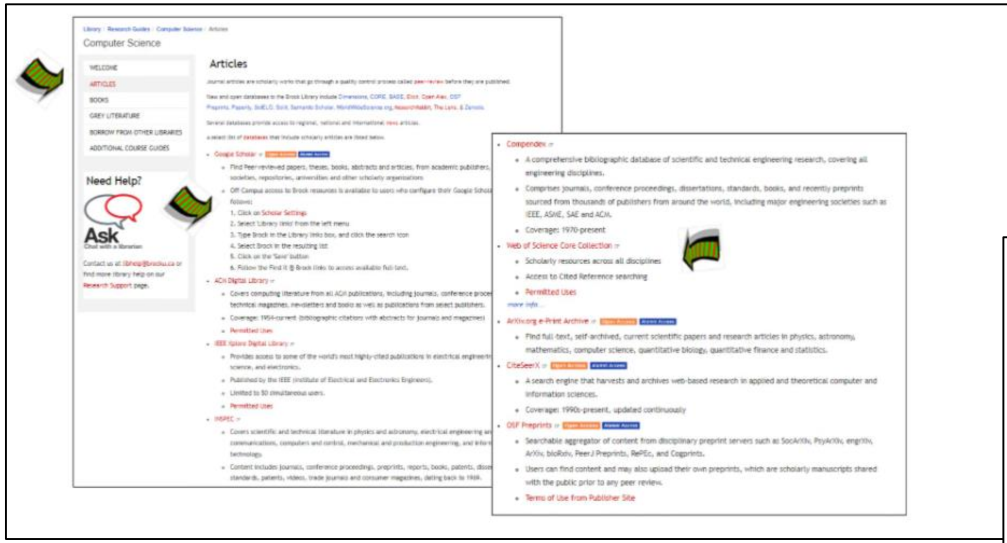
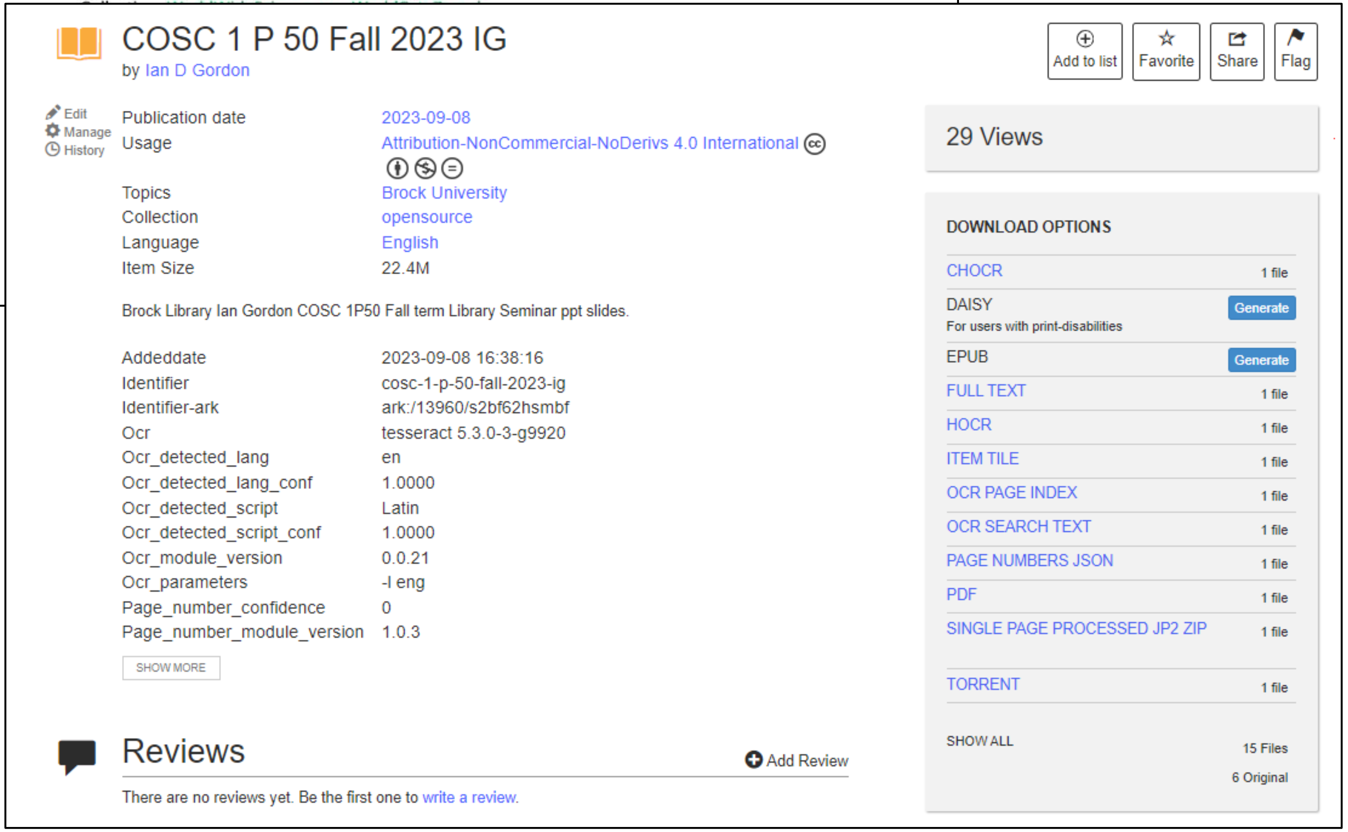


Academic Search Complete, Access Engineering, ACM Digital Library, Access Engineering, ArXiv.org, BASE, BioOne Complete, bioRxiv, CiteSeerX, Compendex, CORE, Dimensions, Directory of Open Access Journals (DOAJ), Elicit, Espacenet, figshare, Google Books, Google Scholar, GreenFILE, IBIS, IEEE Xplore, INSPEC, Internet Archive, The Lens, Mergent, Mitel, Omni, Open Alex, ORCiD, OSF Preprints, Oxford Reference, Paperity, PLOS, ProQuest One Business, PsycINFO, ResearchGate, ResearchRabbit, Scholars Portal E-Journals, SciELO, SciFinder-n, Scite, Scilit, Scopus, Semantic Scholar, The Lens, Web of Science Core



COSC 1 P 50 Fall 2023 IG

by Ian D Gordon

Publication date	2023-09-08
Usage	Attribution-NonCommercial-NoDerivs 4.0 International
Topics	Brock University
Collection	opensource
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Brock Library Ian Gordon COSC 1P50 Fall term Library Seminar ppt slides.

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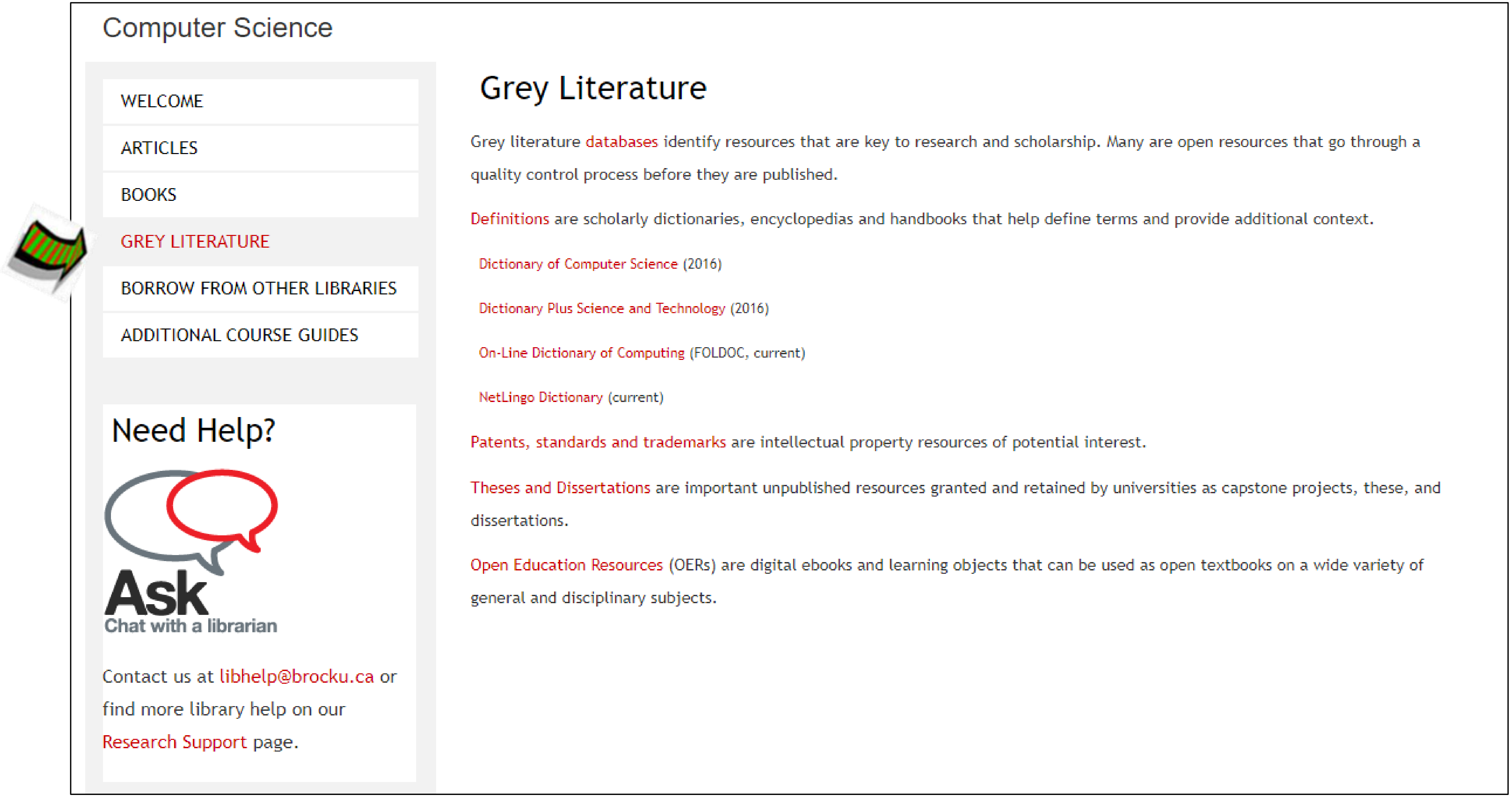

Grey Literature

Grey literature databases identify resources that are key to research and scholarship. Many are open resources that go through a quality control process before they are published.

Definitions are scholarly dictionaries, encyclopedias and handbooks that help define terms and provide additional context.

Dictionary of Computer Science (2016)

Dictionary Plus Science and Technology (2016)

On-Line Dictionary of Computing (FOLDOC, current)

NetLingo Dictionary (current)

Patents, standards and trademarks are intellectual property resources of potential interest.

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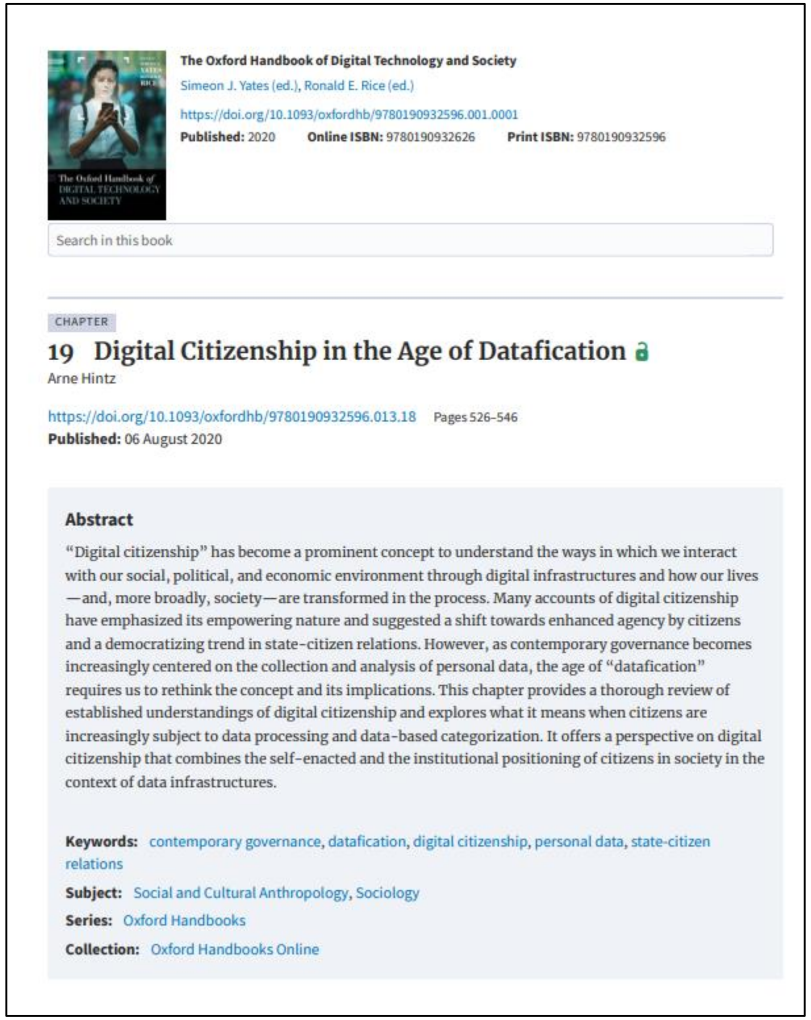


The Oxford Handbook of Digital Technology and Society

Simeon J. Yates (ed.), Ronald E. Rice (ed.)

https://doi.org/10.1093/oxfordhb/9780190932596.001.0001
Published: 2020 **Online ISBN:** 9780190932626 **Print ISBN:** 9780190932596

CHAPTER

19 Digital Citizenship in the Age of Datafication

Arne Hintz

https://doi.org/10.1093/oxfordhb/9780190932596.013.18 Pages 526–546
Published: 06 August 2020

Abstract

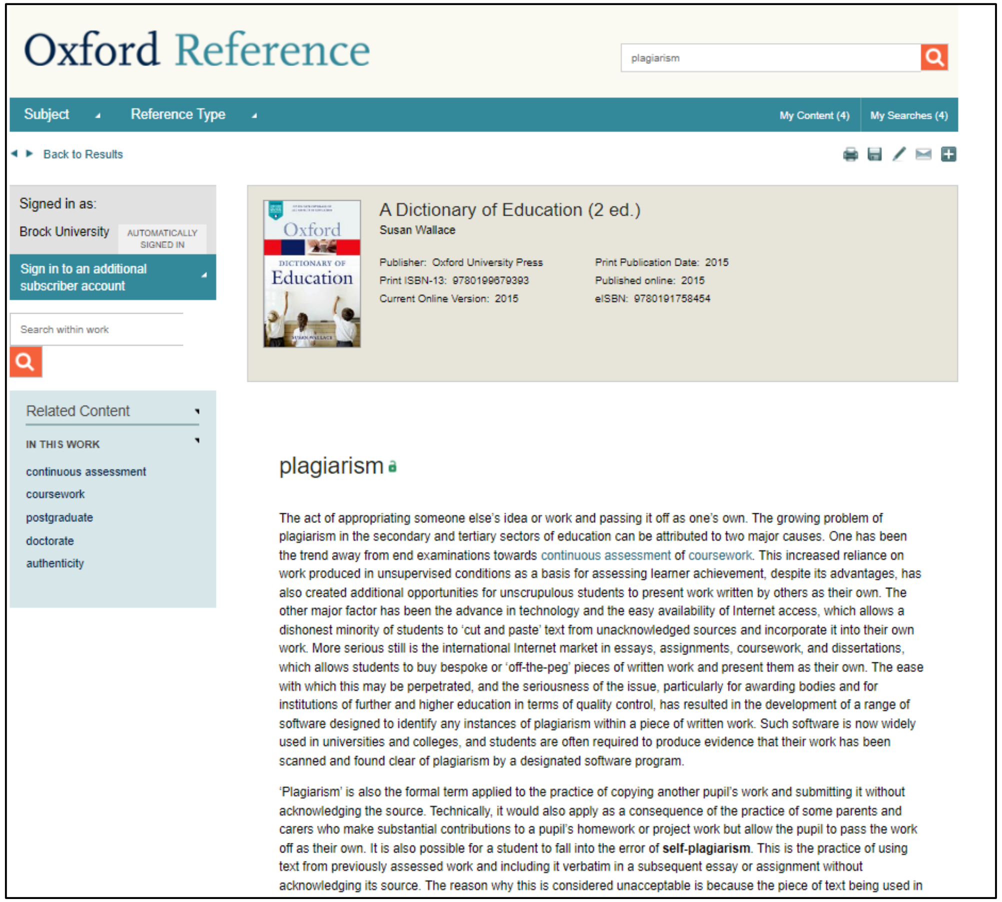
“Digital citizenship” has become a prominent concept to understand the ways in which we interact with our social, political, and economic environment through digital infrastructures and how our lives—and, more broadly, society—are transformed in the process. Many accounts of digital citizenship have emphasized its empowering nature and suggested a shift towards enhanced agency by citizens and a democratizing trend in state-citizen relations. However, as contemporary governance becomes increasingly centered on the collection and analysis of personal data, the age of “datafication” requires us to rethink the concept and its implications. This chapter provides a thorough review of established understandings of digital citizenship and explores what it means when citizens are increasingly subject to data processing and data-based categorization. It offers a perspective on digital citizenship that combines the self-enacted and the institutional positioning of citizens in society in the context of data infrastructures.

Keywords: contemporary governance, datafication, digital citizenship, personal data, state-citizen relations
Subject: Social and Cultural Anthropology, Sociology
Series: Oxford Handbooks
Collection: Oxford Handbooks Online

Hintz (2020) defines digital citizens as “Active citizens [that] are socially and politically engaged with their environment, while passive citizens focus on their private matters in a given framework of rights, obligations, and protection” (528).

References

Hintz, A. (2020). Digital citizenship in the age of datafication. In S. J. Yates & R. E. Rice (Eds.), *The Oxford Handbook of Digital Technology and Society* (pp. 525–546). Oxford University Press. https://doi.org/10.1093/oxfordhb/9780190932596.013.18



A Dictionary of Education (2 ed.)
Susan Wallace

Publisher: Oxford University Press
Print ISBN-13: 9780199679393
Current Online Version: 2015
Print Publication Date: 2015
Published online: 2015
eISBN: 9780191758454

plagiarism

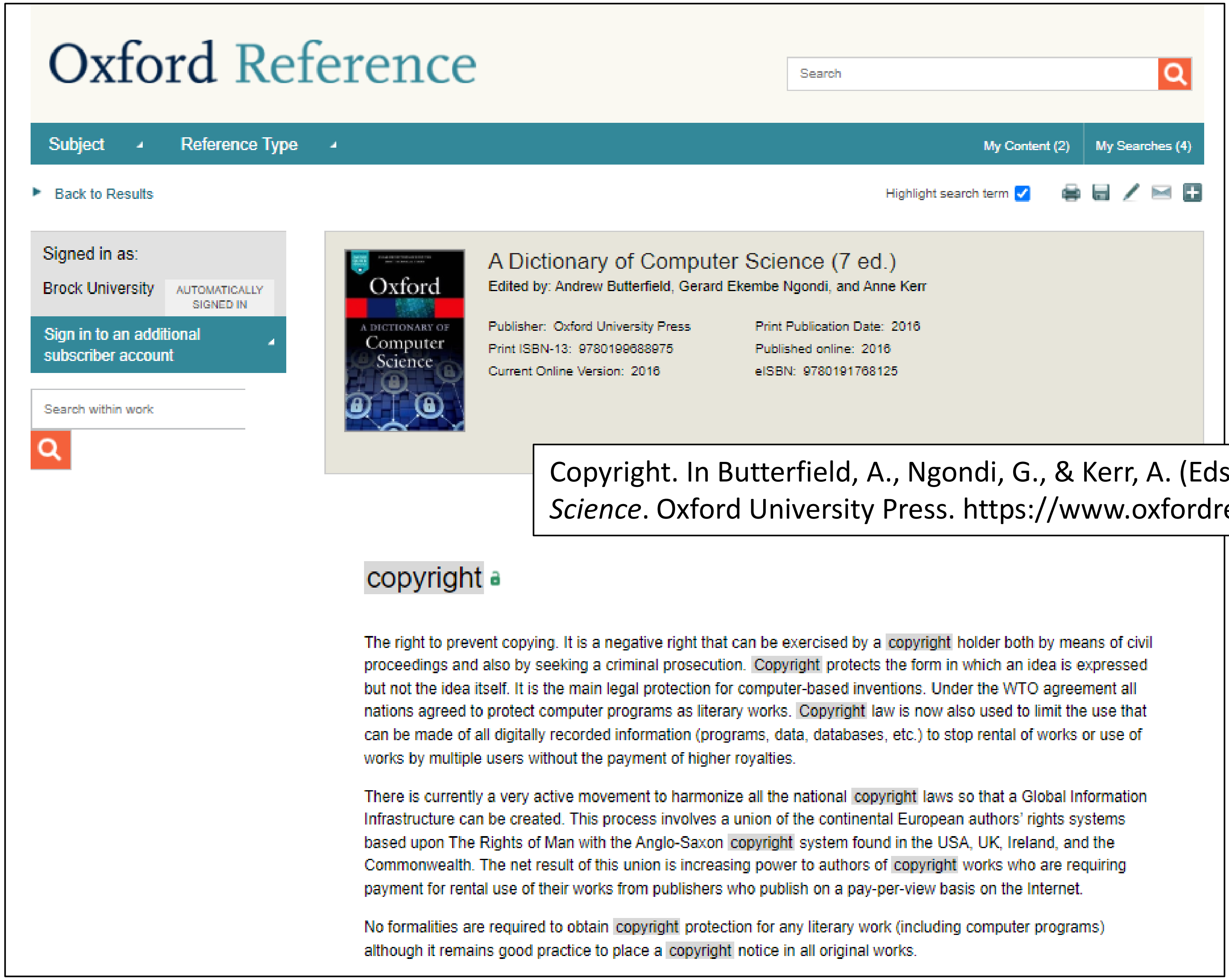
The act of appropriating someone else's idea or work and passing it off as one's own. The growing problem of plagiarism in the secondary and tertiary sectors of education can be attributed to two major causes. One has been the trend away from end examinations towards continuous assessment of coursework. This increased reliance on work produced in unsupervised conditions as a basis for assessing learner achievement, despite its advantages, has also created additional opportunities for unscrupulous students to present work written by others as their own. The other major factor has been the advance in technology and the easy availability of Internet access, which allows a dishonest minority of students to 'cut and paste' text from unacknowledged sources and incorporate it into their own work. More serious still is the international Internet market in essays, assignments, coursework, and dissertations, which allows students to buy bespoke or 'off-the-peg' pieces of written work and present them as their own. The ease with which this may be perpetrated, and the seriousness of the issue, particularly for awarding bodies and for institutions of further and higher education in terms of quality control, has resulted in the development of a range of software designed to identify any instances of plagiarism within a piece of written work. Such software is now widely used in universities and colleges, and students are often required to produce evidence that their work has been scanned and found clear of plagiarism by a designated software program.

'Plagiarism' is also the formal term applied to the practice of copying another pupil's work and submitting it without acknowledging the source. Technically, it would also apply as a consequence of the practice of some parents and carers who make substantial contributions to a pupil's homework or project work but allow the pupil to pass the work off as their own. It is also possible for a student to fall into the error of **self-plagiarism**. This is the practice of using text from previously assessed work and including it verbatim in a subsequent essay or assignment without acknowledging its source. The reason why this is considered unacceptable is because the piece of text being used in

A scholarly definition of plagiarism may be the "…act of appropriating someone else's idea or work and passing it off as one's own" (Wallace, 2015).

References

Wallace, S. (2015). plagiarism. In *A Dictionary of Education*. Oxford University Press. Retrieved 5 Sep. 2024, from https://www.oxfordreference.com/



A Dictionary of Computer Science (7 ed.)

Edited by: Andrew Butterfield, Gerard Ekembe Ngondi, and Anne Kerr

Publisher: Oxford University Press
Print ISBN-13: 9780199688975
Current Online Version: 2016
Print Publication Date: 2016
Published online: 2016
eISBN: 9780191768125

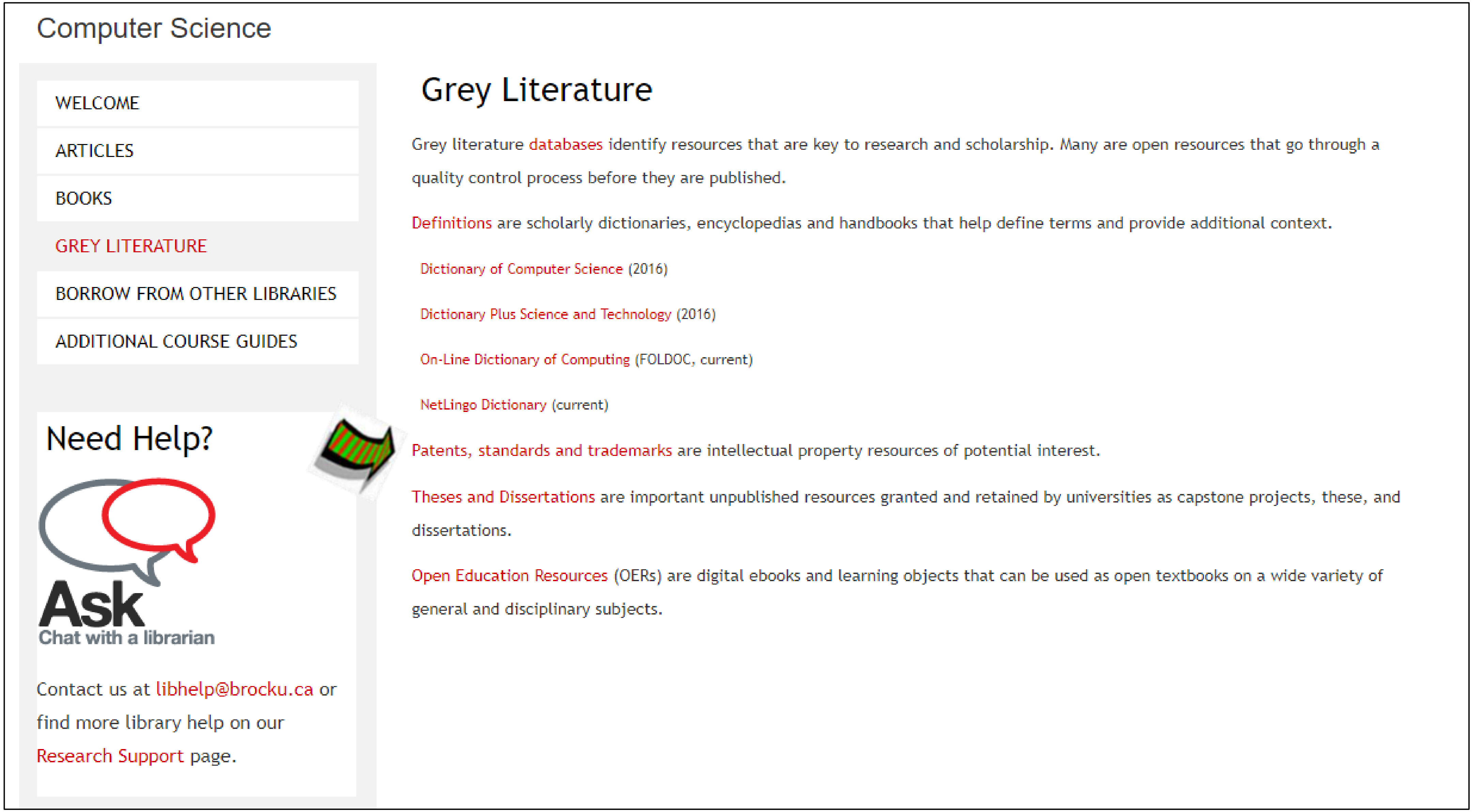
copyright

The right to prevent copying. It is a negative right that can be exercised by a copyright holder both by means of civil proceedings and also by seeking a criminal prosecution. Copyright protects the form in which an idea is expressed but not the idea itself. It is the main legal protection for computer-based inventions. Under the WTO agreement all nations agreed to protect computer programs as literary works. Copyright law is now also used to limit the use that can be made of all digitally recorded information (programs, data, databases, etc.) to stop rental of works or use of works by multiple users without the payment of higher royalties.

There is currently a very active movement to harmonize all the national copyright laws so that a Global Information Infrastructure can be created. This process involves a union of the continental European authors' rights systems based upon The Rights of Man with the Anglo-Saxon copyright system found in the USA, UK, Ireland, and the Commonwealth. The net result of this union is increasing power to authors of copyright works who are requiring payment for rental use of their works from publishers who publish on a pay-per-view basis on the Internet.

No formalities are required to obtain copyright protection for any literary work (including computer programs) although it remains good practice to place a copyright notice in all original works.

Copyright. In Butterfield, A., Ngondi, G., & Kerr, A. (Eds.), *A Dictionary of Computer Science*. Oxford University Press. https://www.oxfordreference.com



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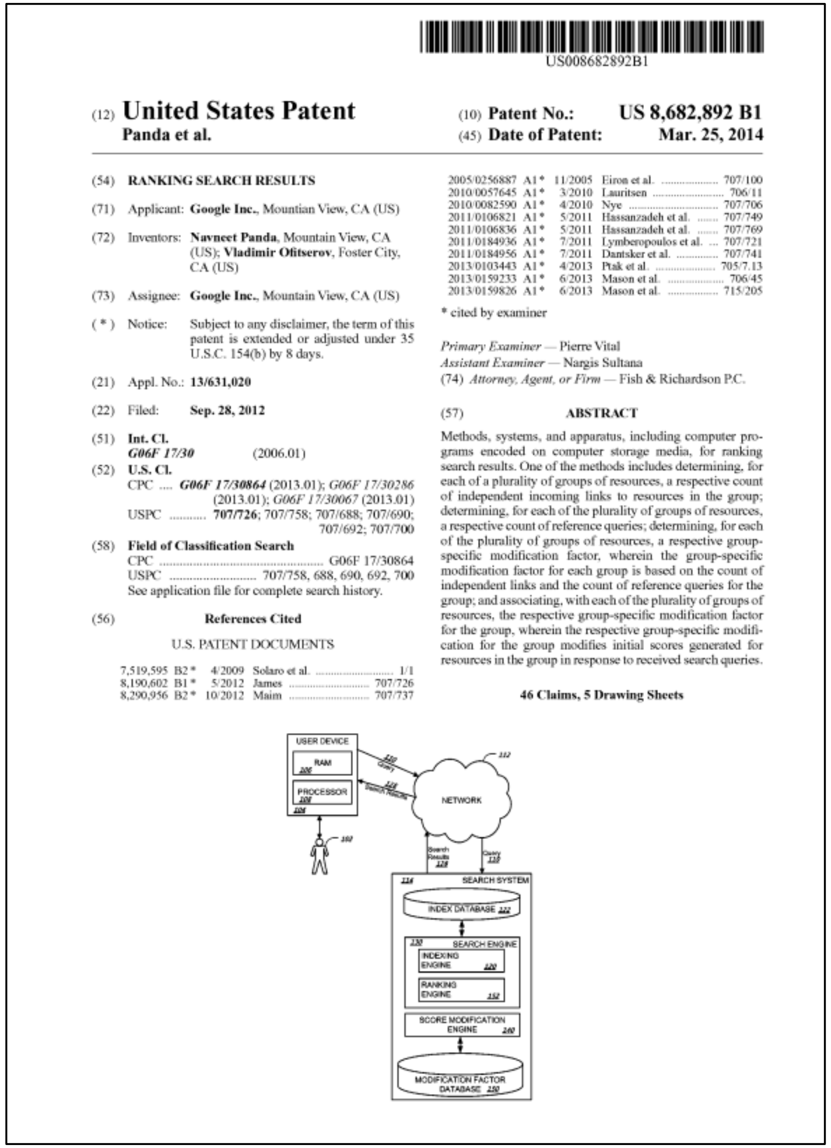

US008682892B1

(12) **United States Patent**
Panda et al.

(10) **Patent No.: US 8,682,892 B1**
(45) **Date of Patent: Mar. 25, 2014**

(54) **RANKING SEARCH RESULTS**

(71) Applicant: **Google Inc.**, Mountian View, CA (US)

(72) Inventors: **Navneet Panda**, Mountain View, CA (US); **Vladimir Ofitserov**, Foster City, CA (US)

(73) Assignee: **Google Inc.**, Mountain View, CA (US)

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 8 days.

(21) Appl. No.: **13/631,020**

(22) Filed: **Sep. 28, 2012**

(51) **Int. Cl.**
G06F 17/30 (2006.01)

(52) **U.S. Cl.**
CPC ***G06F 17/30864*** (2013.01); *G06F 17/30286* (2013.01); *G06F 17/30067* (2013.01)
USPC **707/726**; 707/758; 707/688; 707/690; 707/692; 707/700

(58) **Field of Classification Search**
CPC G06F 17/30864
USPC 707/758, 688, 690, 692, 700
See application file for complete search history.

(56) **References Cited**

U.S. PATENT DOCUMENTS

7,519,595	B2 *	4/2009	Solaro et al.	1/1
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2005/0256887	A1 *	11/2005	Eiron et al.	707/100
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2011/0106821	A1 *	5/2011	Hassanzadeh et al.	707/749
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2011/0184936	A1 *	7/2011	Lymberopoulos et al.	707/721
2011/0184956	A1 *	7/2011	Dantsker et al.	707/741
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2013/0159233	A1 *	6/2013	Mason et al.	706/45
2013/0159826	A1 *	6/2013	Mason et al.	715/205

* cited by examiner

Primary Examiner — Pierre Vital
Assistant Examiner — Nargis Sultana
(74) *Attorney, Agent, or Firm* — Fish & Richardson P.C.

(57) **ABSTRACT**

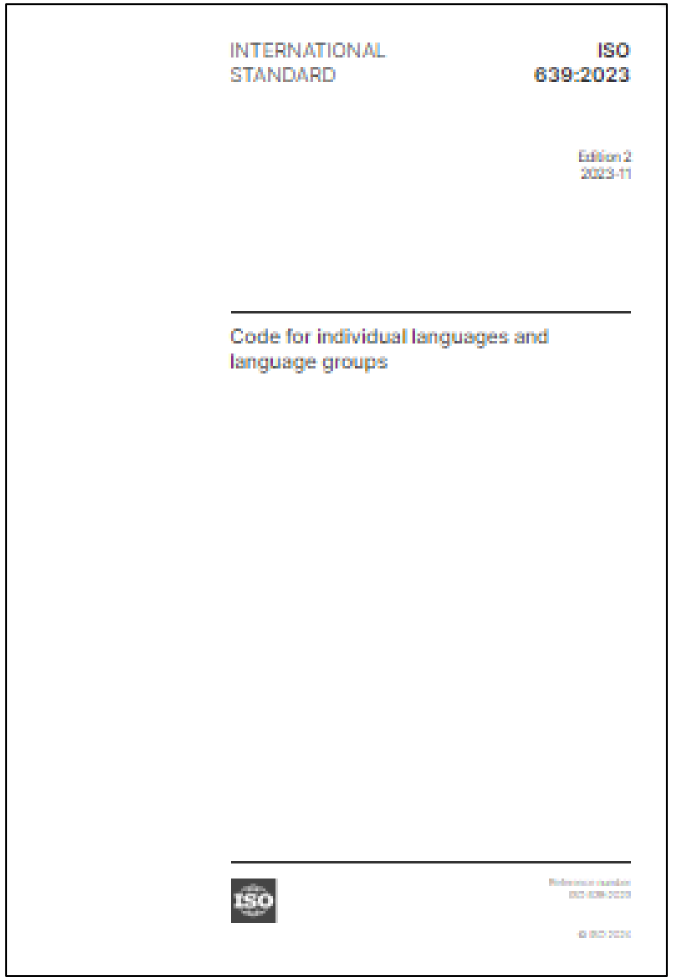
Methods, systems, and apparatus, including computer programs encoded on computer storage media, for ranking search results. One of the methods includes determining, for each of a plurality of groups of resources, a respective count of independent incoming links to resources in the group; determining, for each of the plurality of groups of resources, a respective count of reference queries; determining, for each of the plurality of groups of resources, a respective group-specific modification factor, wherein the group-specific modification factor for each group is based on the count of independent links and the count of reference queries for the group; and associating, with each of the plurality of groups of resources, the respective group-specific modification factor for the group, wherein the respective group-specific modification for the group modifies initial scores generated for resources in the group in response to received search queries.

46 Claims, 5 Drawing Sheets

Google developed and patented software that revolutionized Internet search and ranking algorithms (Parmer, 2015).

References

Parmar, V.; Talavera, G. *Smart Grid Deployment Simulator*. CA 2798545, 2015.

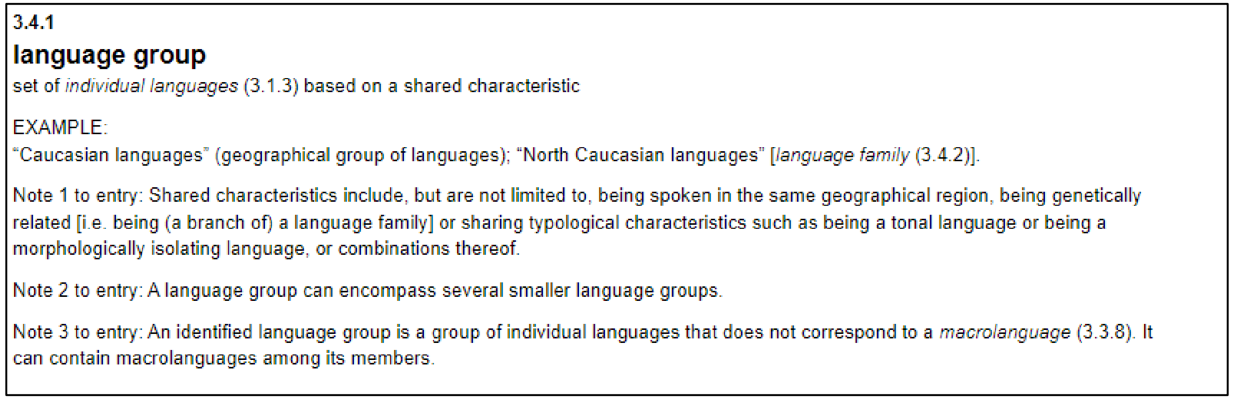


INTERNATIONAL STANDARD

ISO 639:2023

Edition 2
2023-11

Code for individual languages and language groups



3.4.1

language group

set of *individual languages* (3.1.3) based on a shared characteristic

EXAMPLE:
"Caucasian languages" (geographical group of languages); "North Caucasian languages" [*language family* (3.4.2)].

Note 1 to entry: Shared characteristics include, but are not limited to, being spoken in the same geographical region, being genetically related [i.e. being (a branch of) a language family] or sharing typological characteristics such as being a tonal language or being a morphologically isolating language, or combinations thereof.

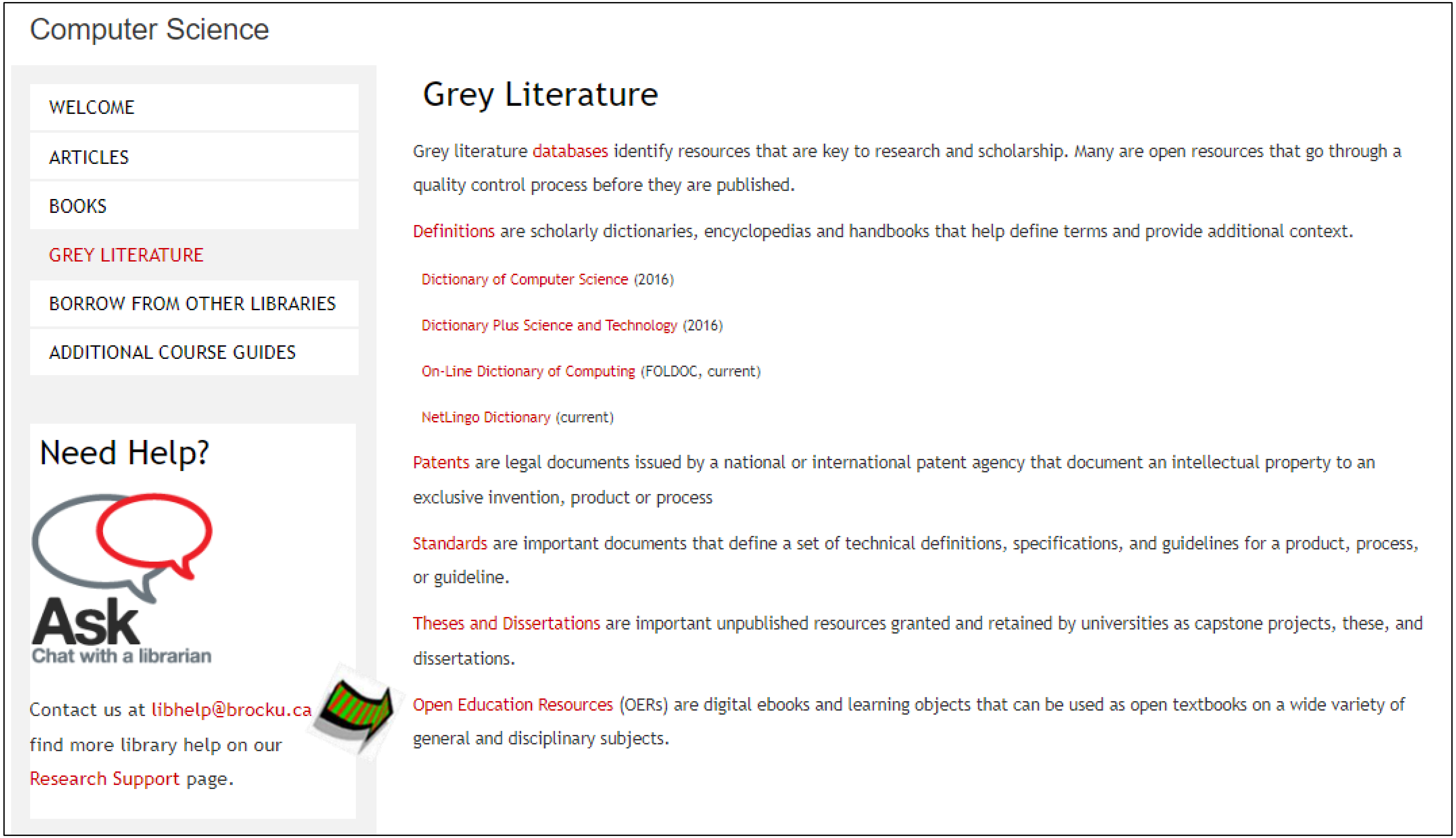
Note 2 to entry: A language group can encompass several smaller language groups.

Note 3 to entry: An identified language group is a group of individual languages that does not correspond to a *macrolanguage* (3.3.8). It can contain macrolanguages among its members.

A "Caucasian languages group" is defined is an international group or language spoken in the same geographical region and sharing typological and tonal language characteristics… (ISO, 2023).

References

ISO. (2023). Code for Individual Languages and Language Groups. ISO 639:2023 Edition2.



Computer Science

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Dictionary Plus Science and Technology (2016)

On-Line Dictionary of Computing (FOLDOC, current)

NetLingo Dictionary (current)

Patents are legal documents issued by a national or international patent agency that document an intellectual property to an exclusive invention, product or process

Standards are important documents that define a set of technical definitions, specifications, and guidelines for a product, process, or guideline.

Theses and Dissertations are important unpublished resources granted and retained by universities as capstone projects, these, and dissertations.

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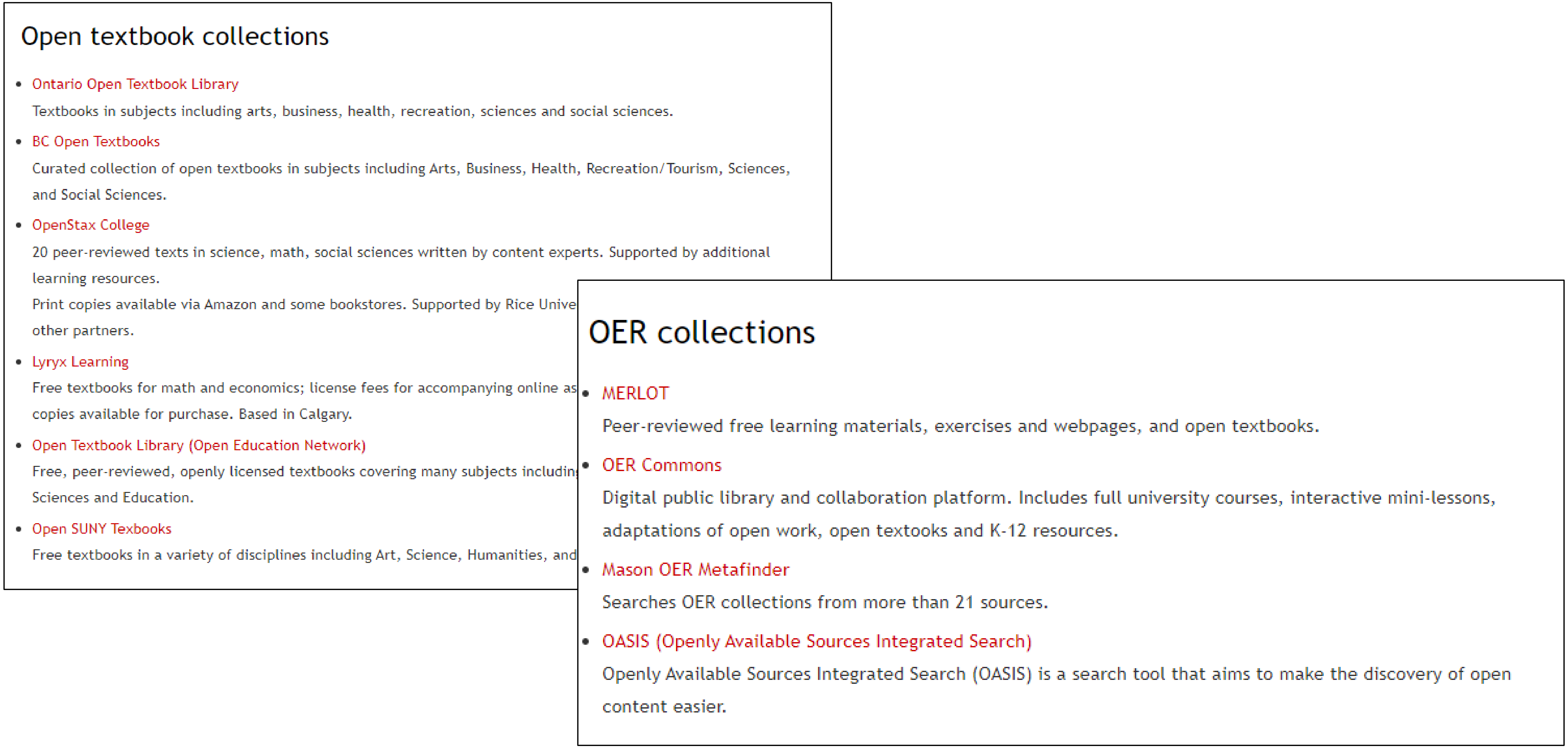

Open textbook collections

- Ontario Open Textbook Library
  Textbooks in subjects including arts, business, health, recreation, sciences and social sciences.
- BC Open Textbooks
  Curated collection of open textbooks in subjects including Arts, Business, Health, Recreation/Tourism, Sciences, and Social Sciences.
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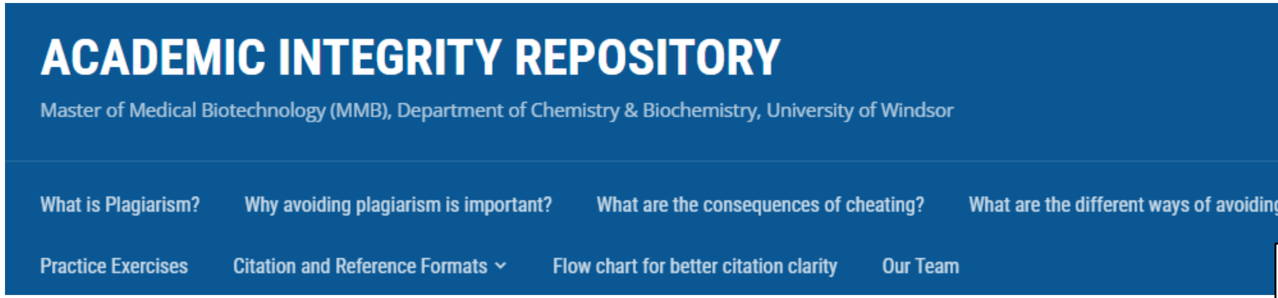
- OER Commons
  Digital public library and collaboration platform. Includes full university courses, interactive mini-lessons, adaptations of open work, open textooks and K-12 resources.
- Mason OER Metafinder
  Searches OER collections from more than 21 sources.
- OASIS (Openly Available Sources Integrated Search)
  Openly Available Sources Integrated Search (OASIS) is a search tool that aims to make the discovery of open content easier.

https://uwindsor.icampus21.com/wordpress/mmb2021/



ACADEMIC INTEGRITY REPOSITORY

Master of Medical Biotechnology (MMB), Department of Chemistry & Biochemistry, University of Windsor

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Why avoiding plagiarism is important?
What are the consequences of cheating?
What are the different ways of avoiding plagiarism?
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Citation and Reference Formats
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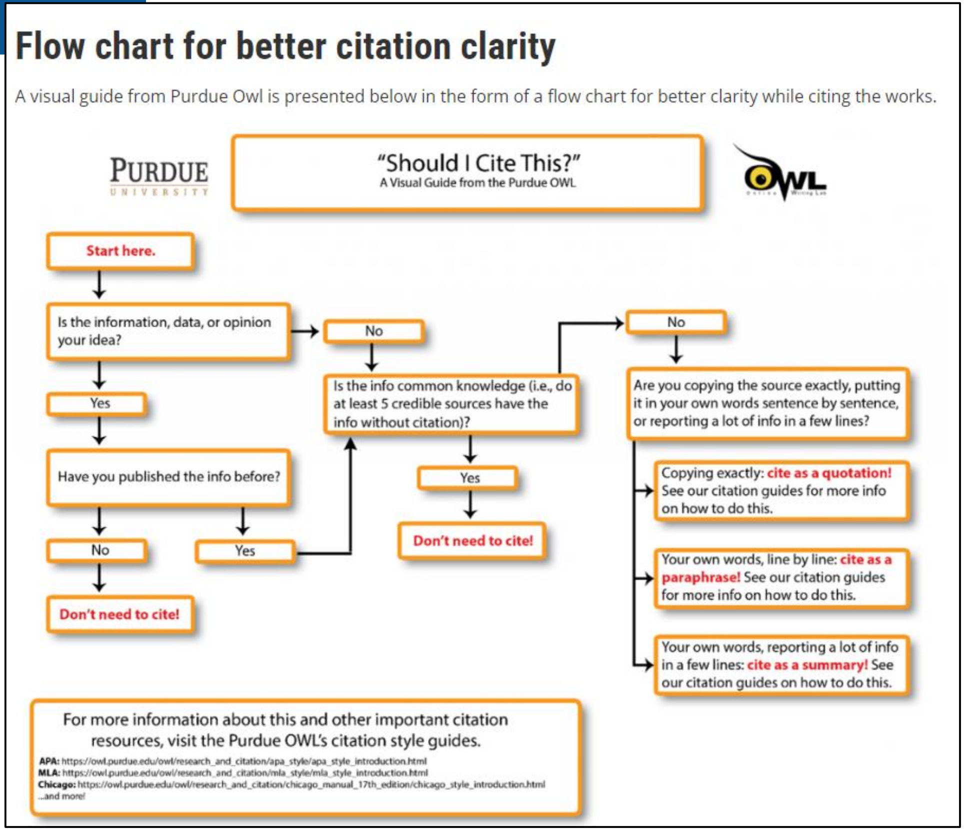


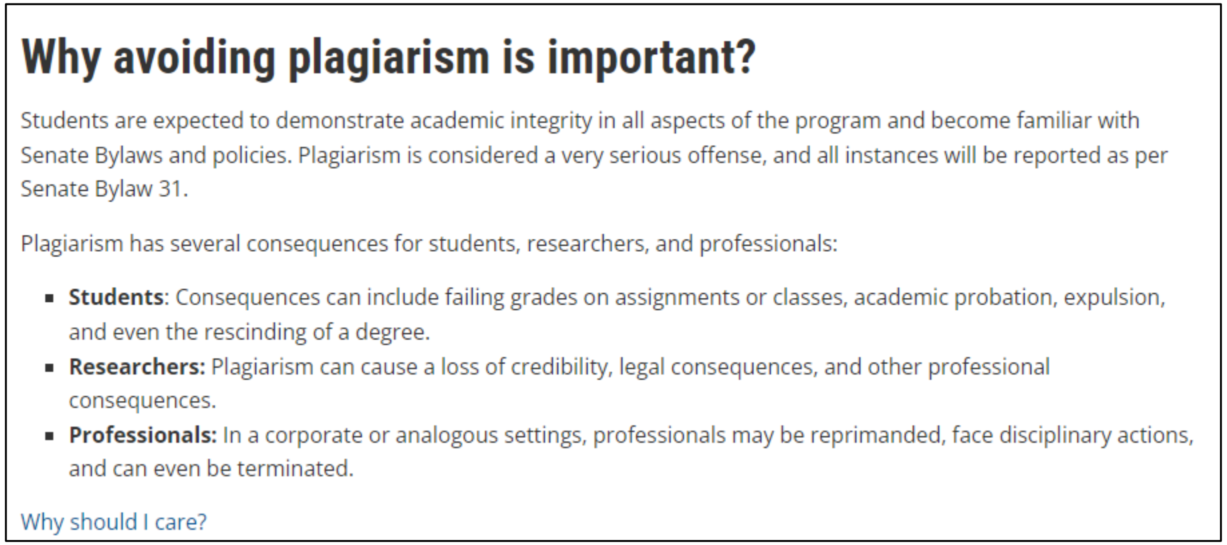
Flow chart for better citation clarity

A visual guide from Purdue Owl is presented below in the form of a flow chart for better clarity while citing the works.

PURDUE UNIVERSITY
"Should I Cite This?"
A Visual Guide from the Purdue OWL
OWL
Start here.
Is the information, data, or opinion your idea?
Yes
Have you published the info before?
No
Don't need to cite!
Yes
No
Is the info common knowledge (i.e., do at least 5 credible sources have the info without citation)?
Yes
Don't need to cite!
No
Are you copying the source exactly, putting it in your own words sentence by sentence, or reporting a lot of info in a few lines?
Copying exactly: cite as a quotation! See our citation guides for more info on how to do this.
Your own words, line by line: cite as a paraphrase! See our citation guides for more info on how to do this.
Your own words, reporting a lot of info in a few lines: cite as a summary! See our citation guides on how to do this.

For more information about this and other important citation resources, visit the Purdue OWL's citation style guides.

APA: https://owl.purdue.edu/owl/research_and_citation/apa_style/apa_style_introduction.html
MLA: https://owl.purdue.edu/owl/research_and_citation/mla_style/mla_style_introduction.html
Chicago: https://owl.purdue.edu/owl/research_and_citation/chicago_manual_17th_edition/chicago_style_introduction.html
...and more!



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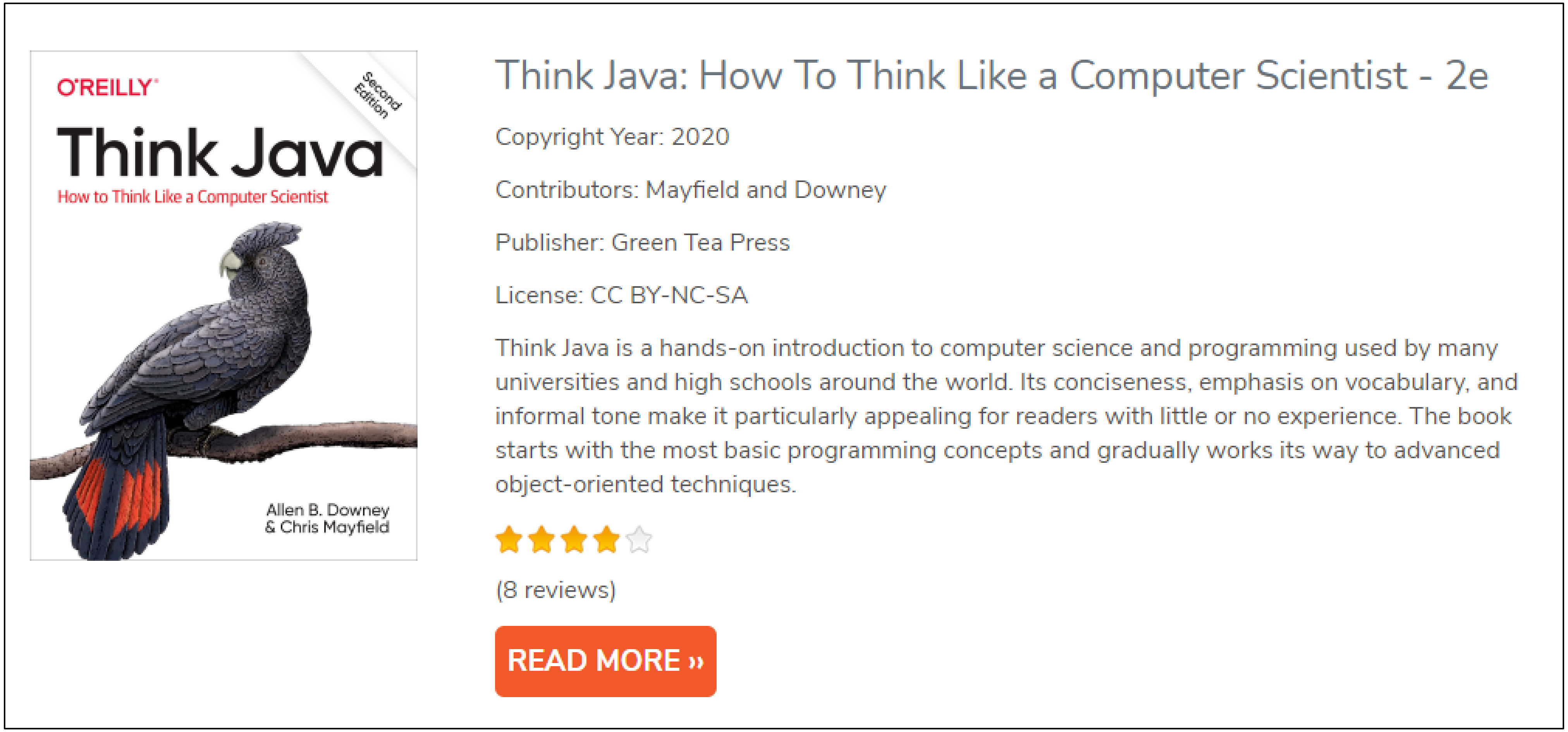

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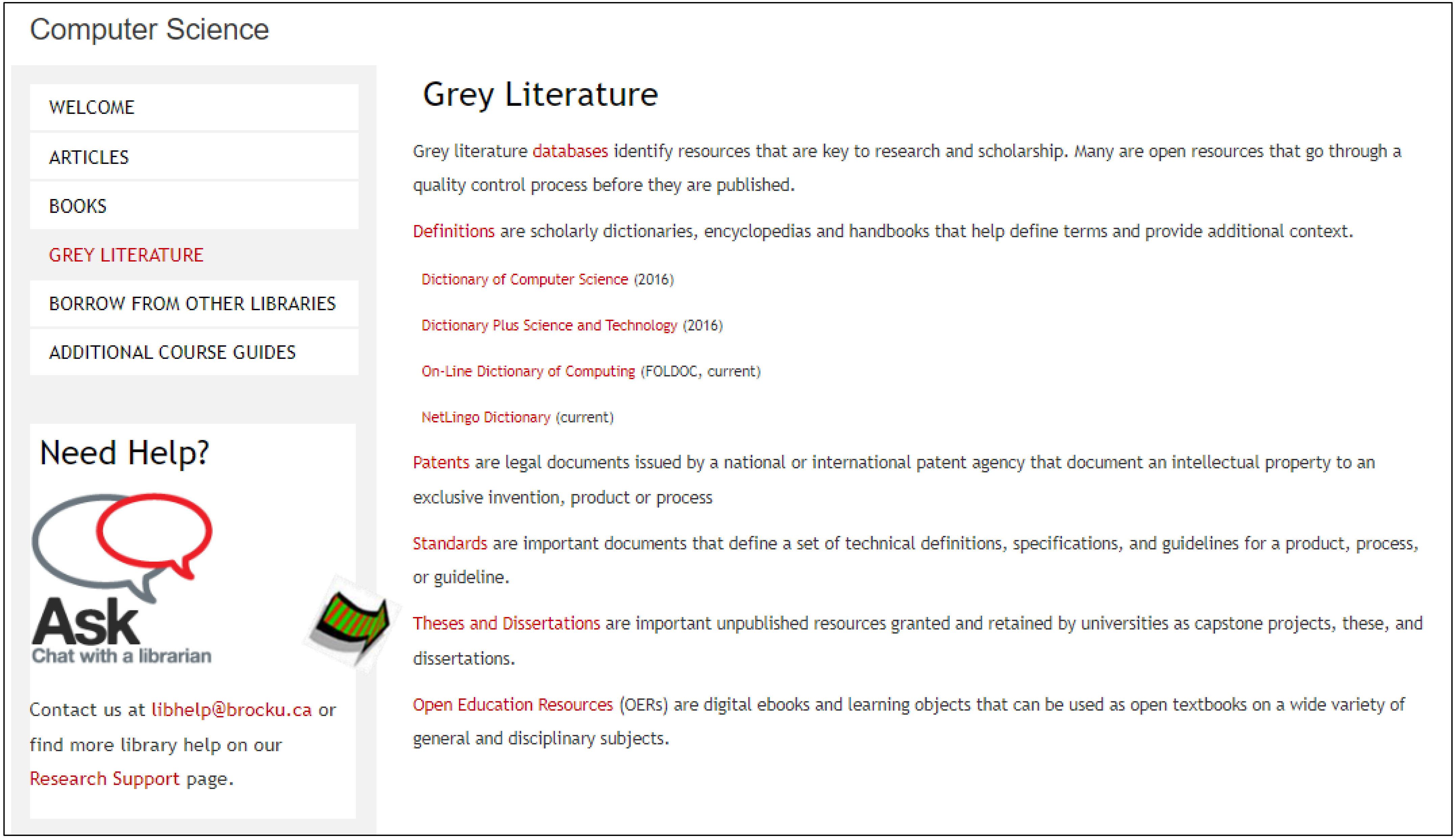

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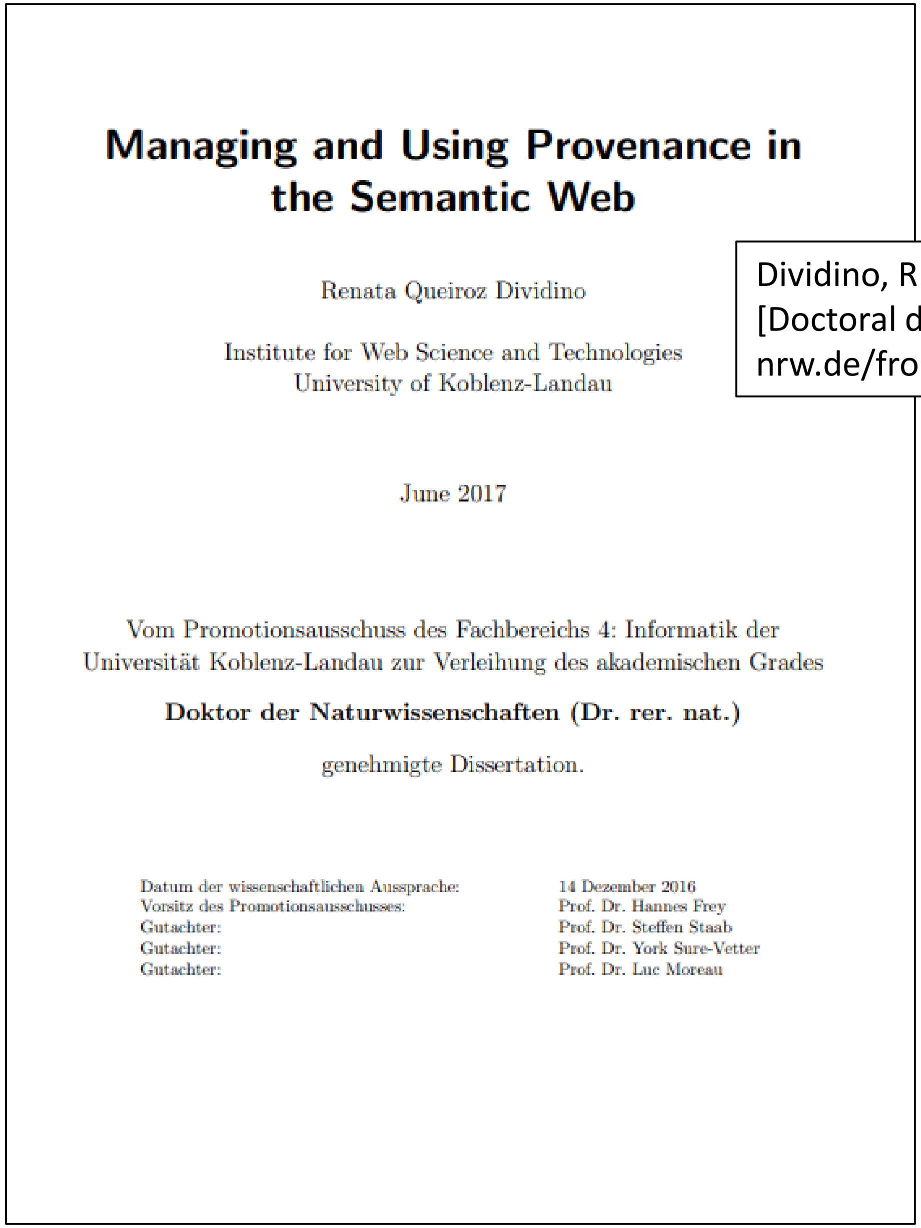

Managing and Using Provenance in the Semantic Web

Renata Queiroz Dividino

Institute for Web Science and Technologies
University of Koblenz-Landau

June 2017

Vom Promotionsausschuss des Fachbereichs 4: Informatik der
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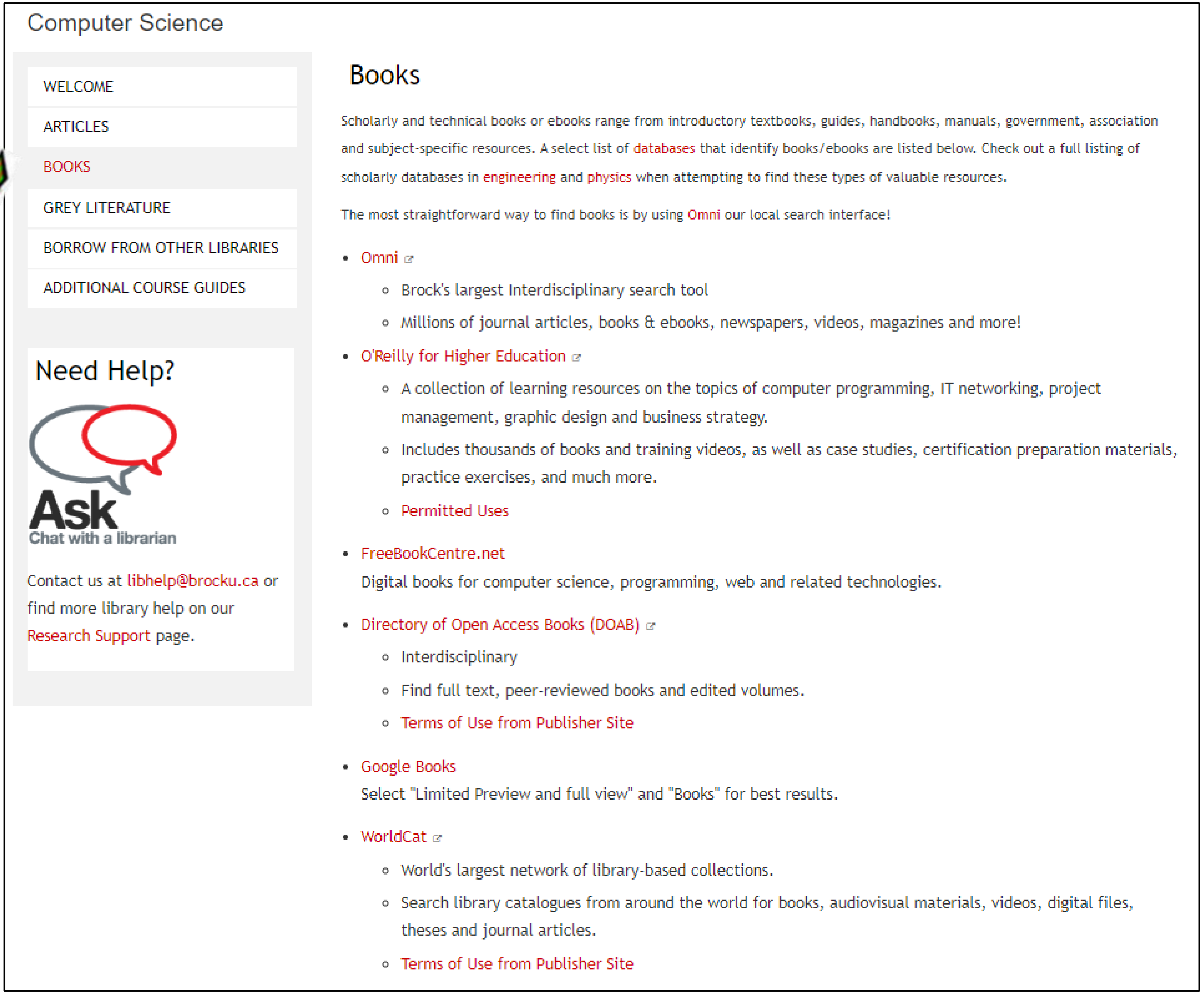

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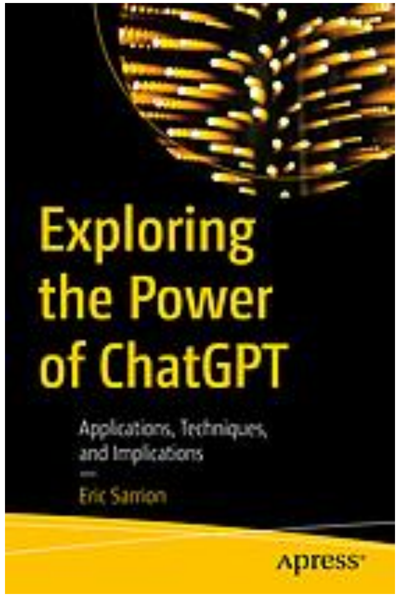
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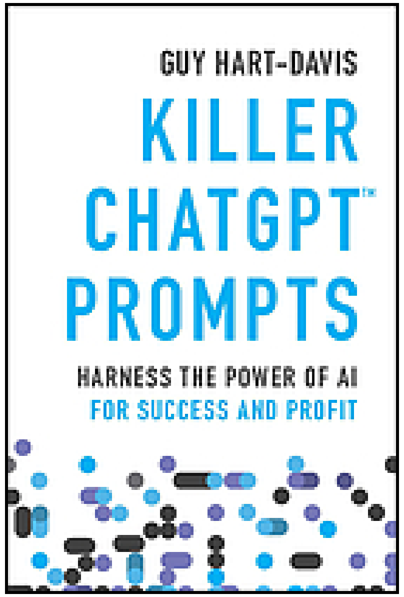
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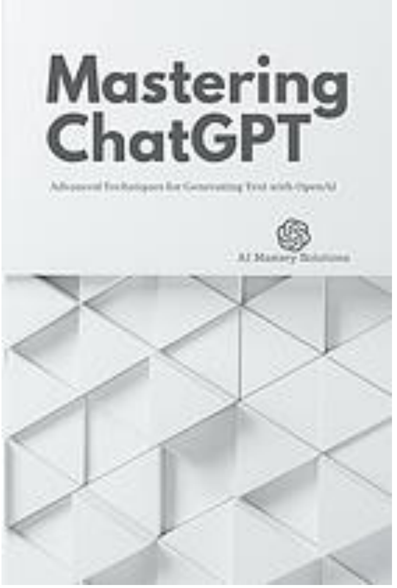
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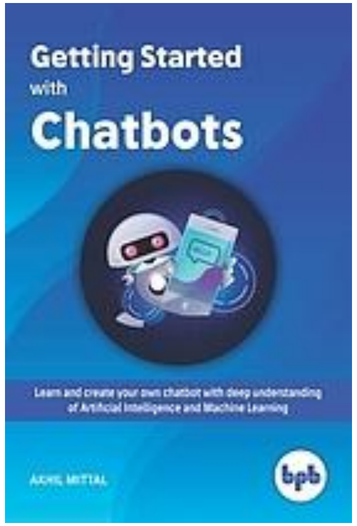
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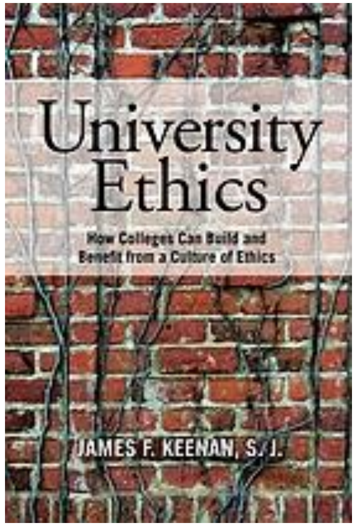
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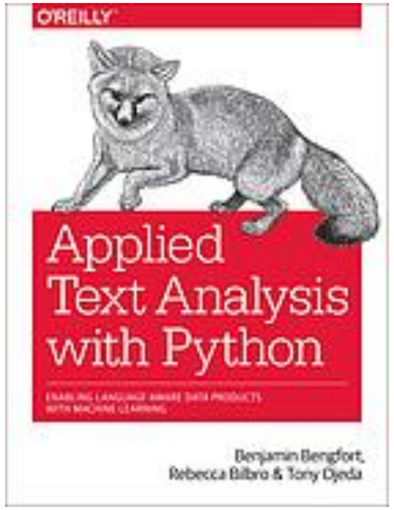
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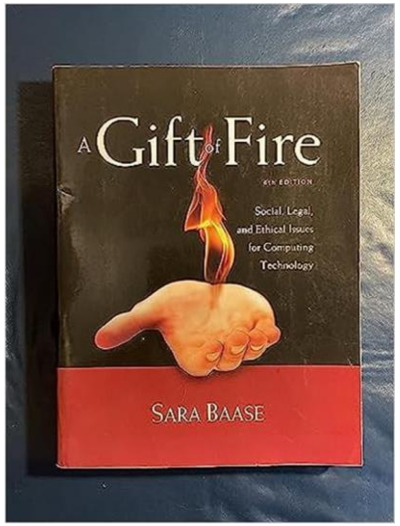
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Robots in Care and Everyday Life
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Chapter 1
Trustworthiness and Well-Being: The Ethical, Legal, and Social Challenge of Robotic Assistance

Michael Beetz, Uwe Engel, Nina Hoyer, Lorenz Kähler, Hagen Langer, Holger Schultheis, and Sirko Straube

Abstract If a technology lacks social acceptance, it cannot realize dissemination into society. The chapter thus illuminates the ethical, legal, and social implications of robotic assistance in care and daily life. It outlines a conceptual framework and
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Keywor
Trustwo
being · Care · Everyday life

1.1 Introduction

That artificial intelligence and robots will change life is widely expected. International competition alone will ensure continuing investments in this key technology. No country will be able to maintain its economic competitiveness if it does not invest

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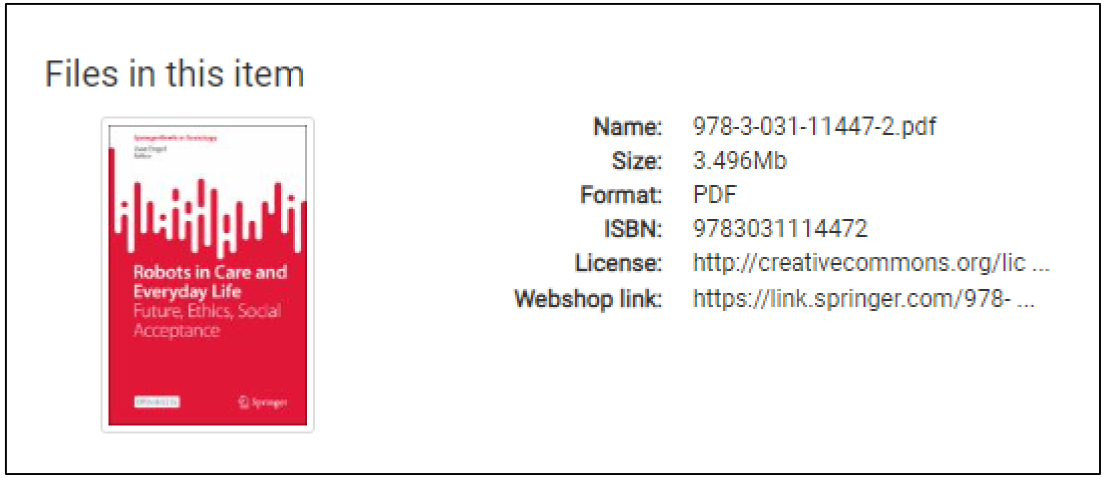

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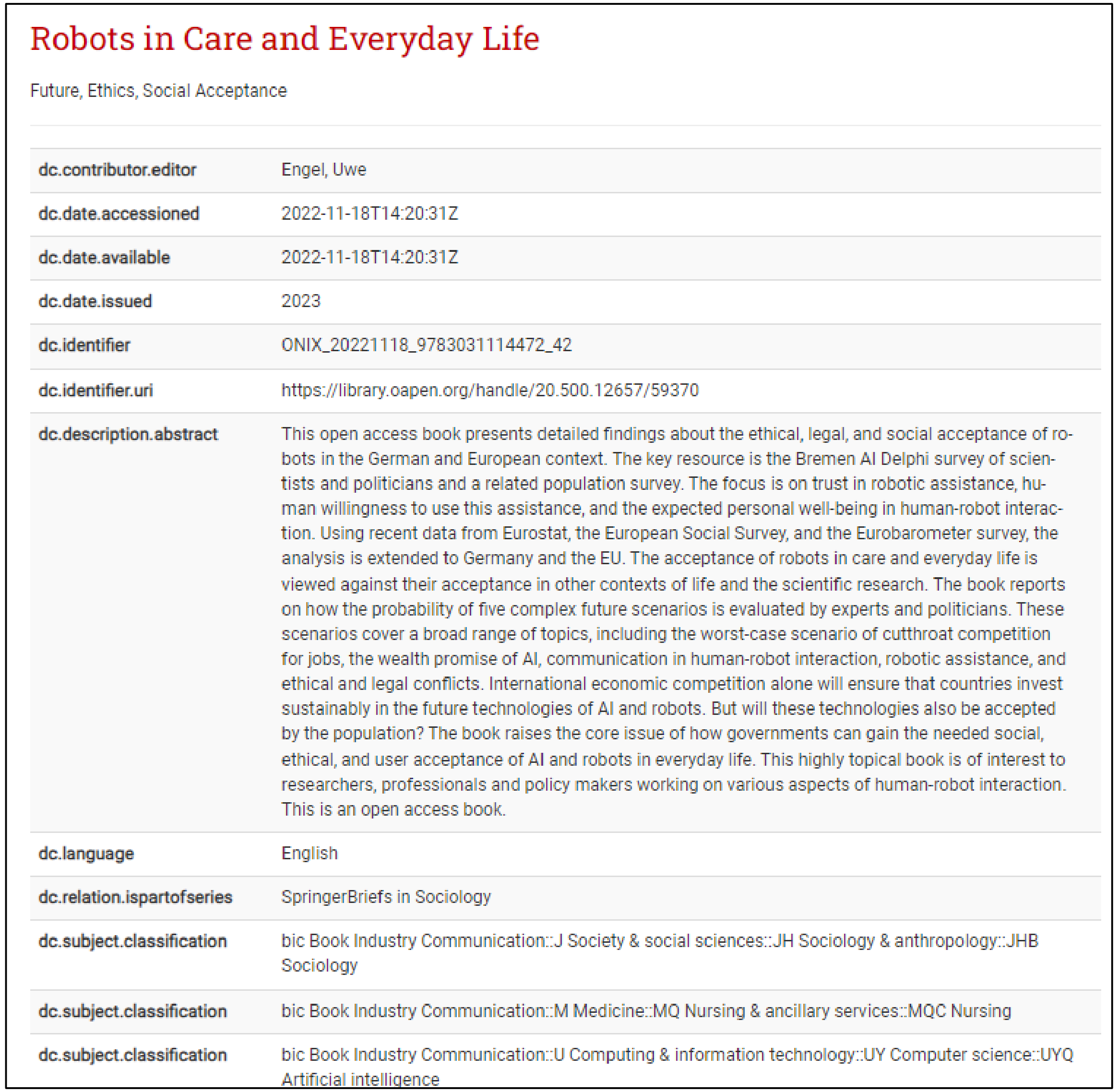

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dc.description.abstract	This open access book presents detailed findings about the ethical, legal, and social acceptance of robots in the German and European context. The key resource is the Bremen AI Delphi survey of scientists and politicians and a related population survey. The focus is on trust in robotic assistance, human willingness to use this assistance, and the expected personal well-being in human-robot interaction. Using recent data from Eurostat, the European Social Survey, and the Eurobarometer survey, the analysis is extended to Germany and the EU. The acceptance of robots in care and everyday life is viewed against their acceptance in other contexts of life and the scientific research. The book reports on how the probability of five complex future scenarios is evaluated by experts and politicians. These scenarios cover a broad range of topics, including the worst-case scenario of cutthroat competition for jobs, the wealth promise of AI, communication in human-robot interaction, robotic assistance, and ethical and legal conflicts. International economic competition alone will ensure that countries invest sustainably in the future technologies of AI and robots. But will these technologies also be accepted by the population? The book raises the core issue of how governments can gain the needed social, ethical, and user acceptance of AI and robots in everyday life. This highly topical book is of interest to researchers, professionals and policy makers working on various aspects of human-robot interaction. This is an open access book.
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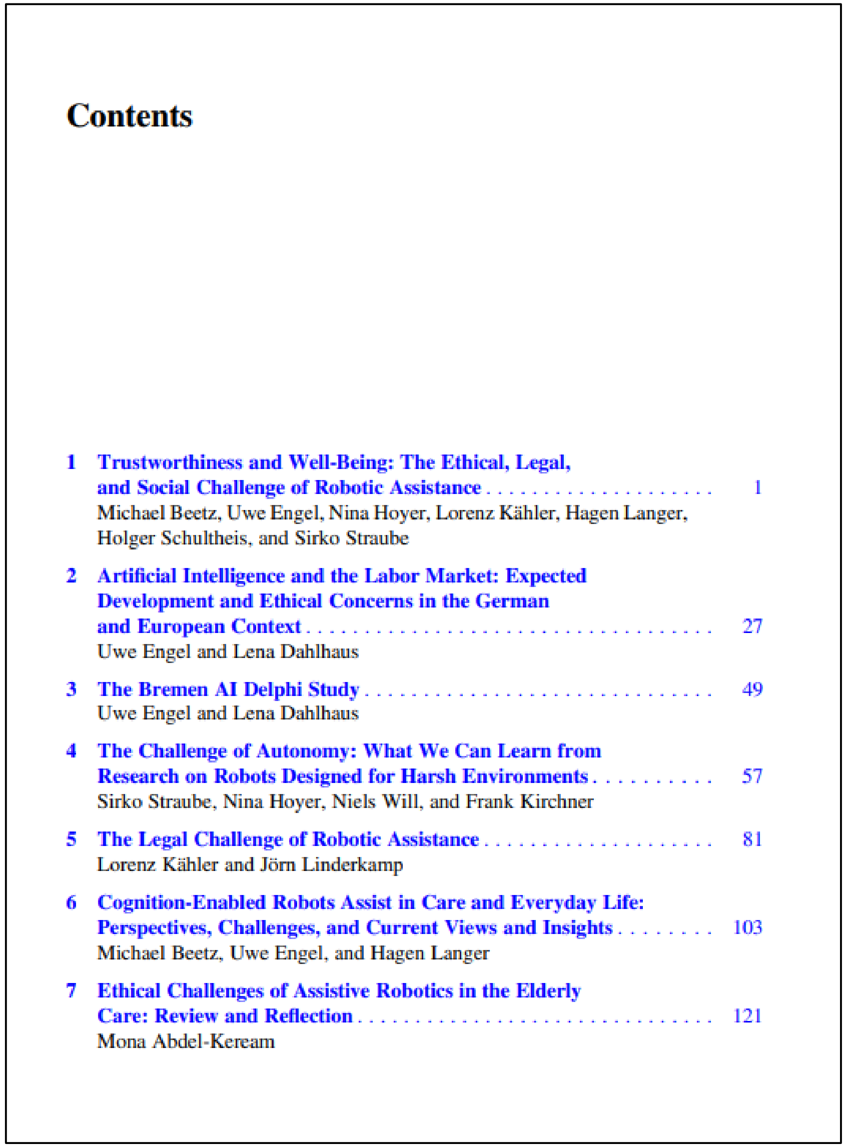

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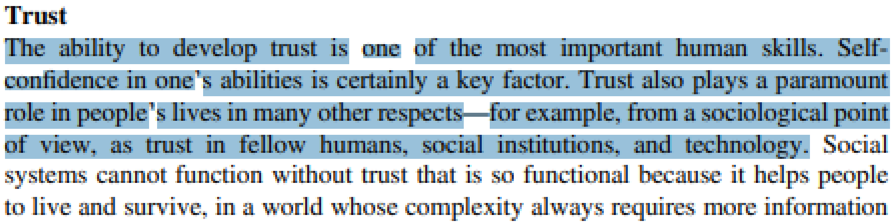

Trust

The ability to develop trust is one of the most important human skills. Self-confidence in one's abilities is certainly a key factor. Trust also plays a paramount role in people's lives in many other respects—for example, from a sociological point of view, as trust in fellow humans, social institutions, and technology. Social systems cannot function without trust that is so functional because it helps people to live and survive, in a world whose complexity always requires more information

Text

Beetz (2023) commented that "The ability to develop trust is one of the most important human skills. Selfconfidence in one's abilities is certainly a key factor. Trust also plays a paramount role in people's lives in many other respects—for example, from a sociological point of view, as trust in fellow humans, social institutions, and technology" (3).

Reference

Beetz, M. et al. (2023). Trustworthiness and well-being: The ethical, Legal, and social challenges of robotic assistance. In U. Engel (Ed.), *Robots in care and everyday life: Future, ethics, social acceptance* (pp. 1-26). Springer.

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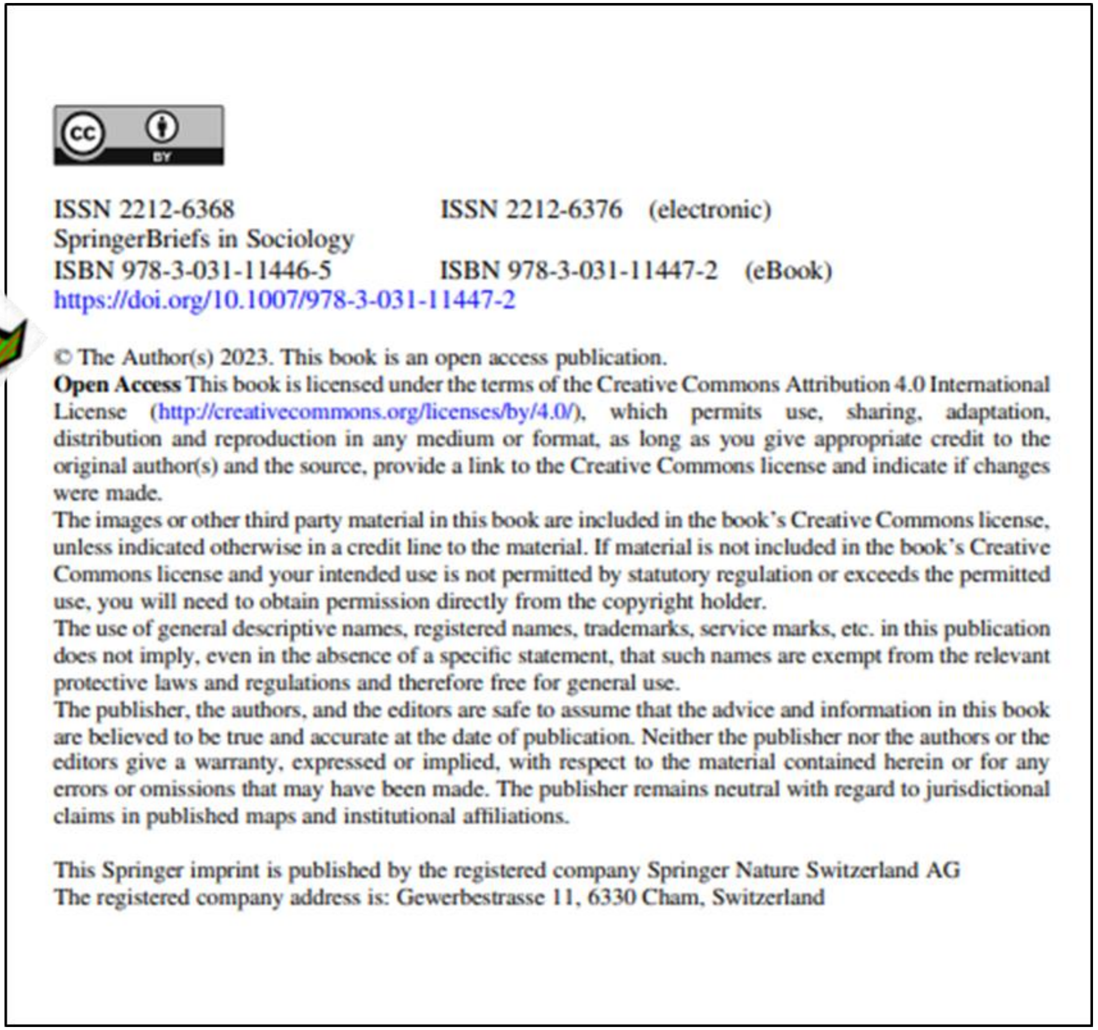

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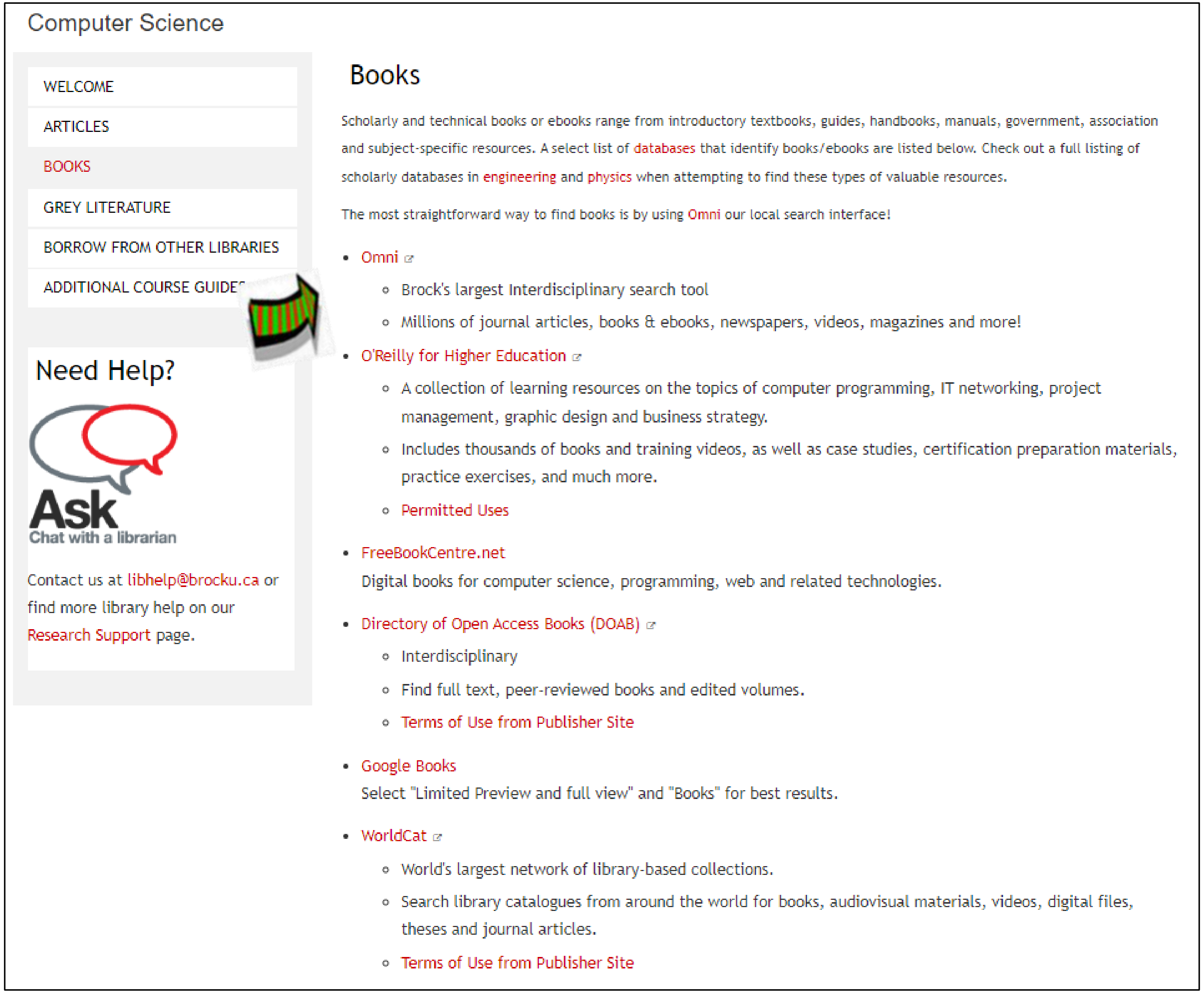

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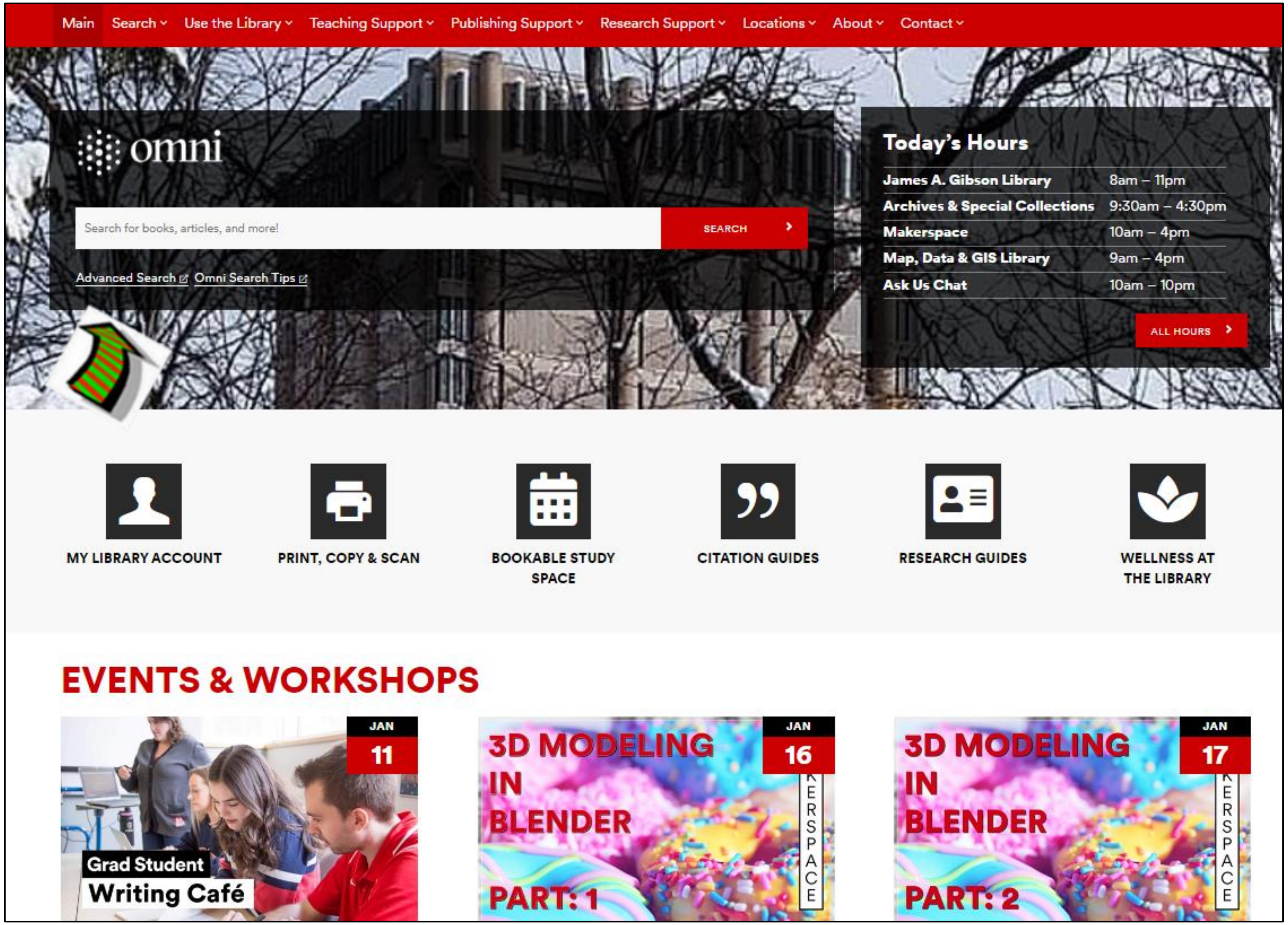

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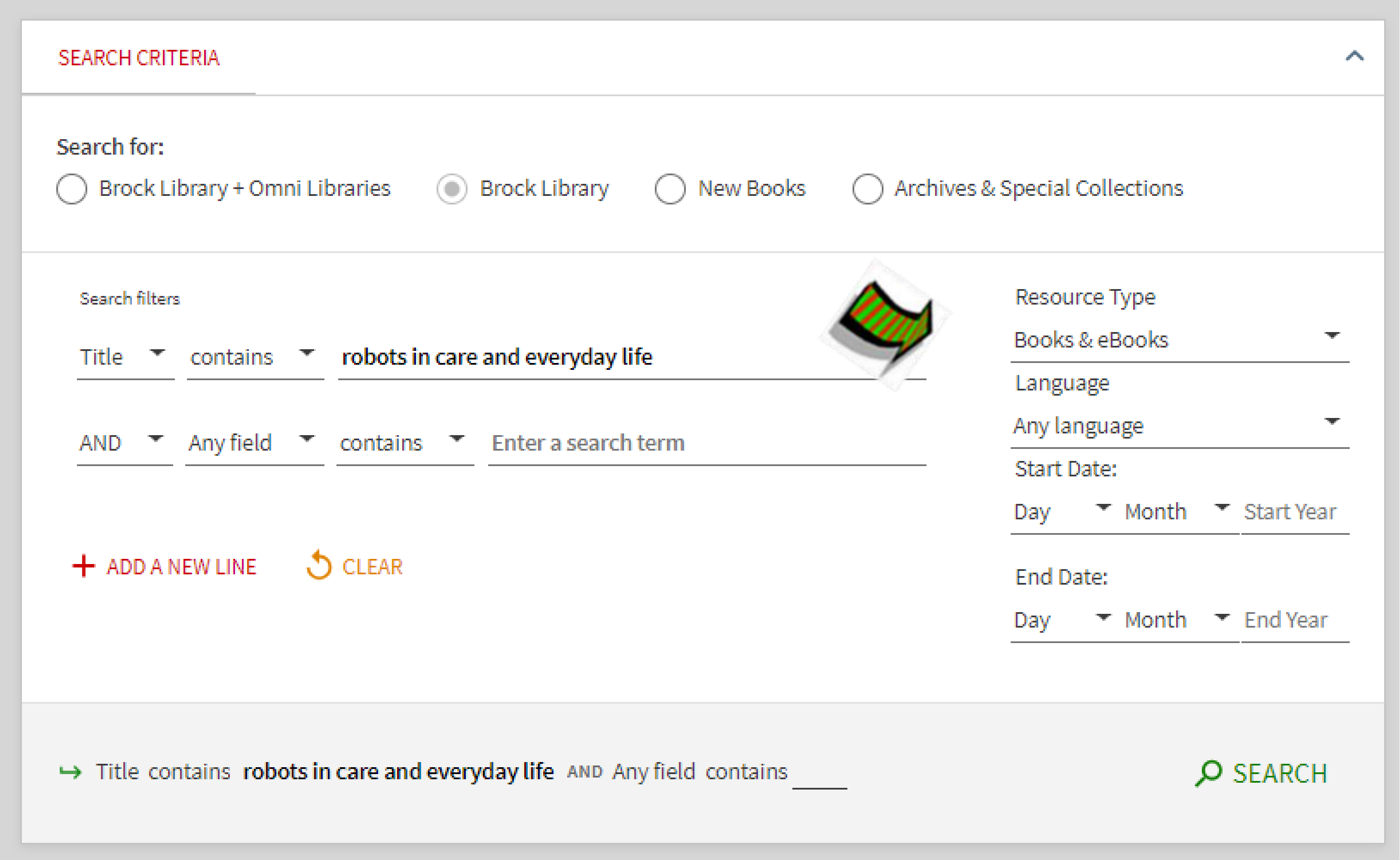

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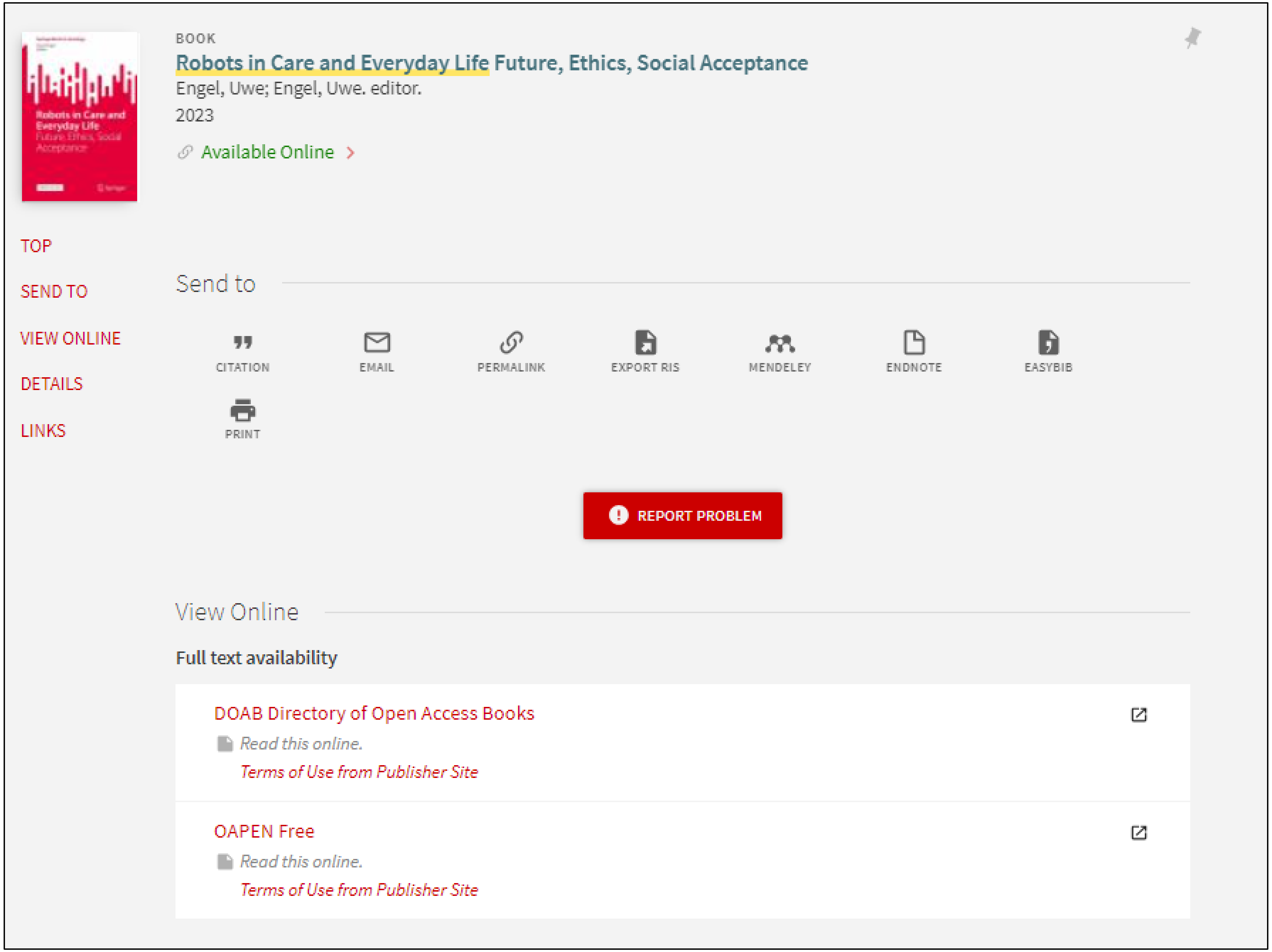

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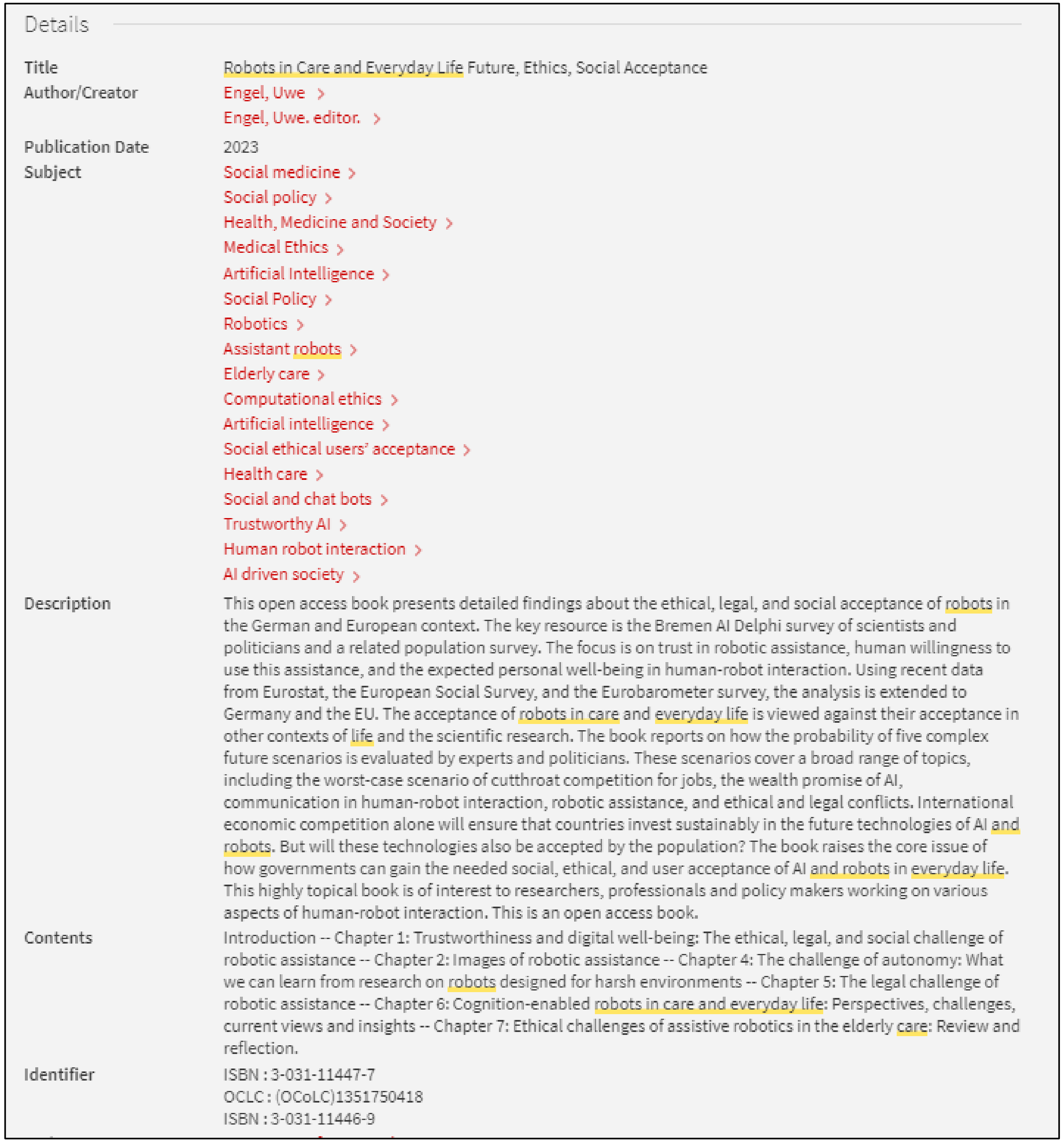

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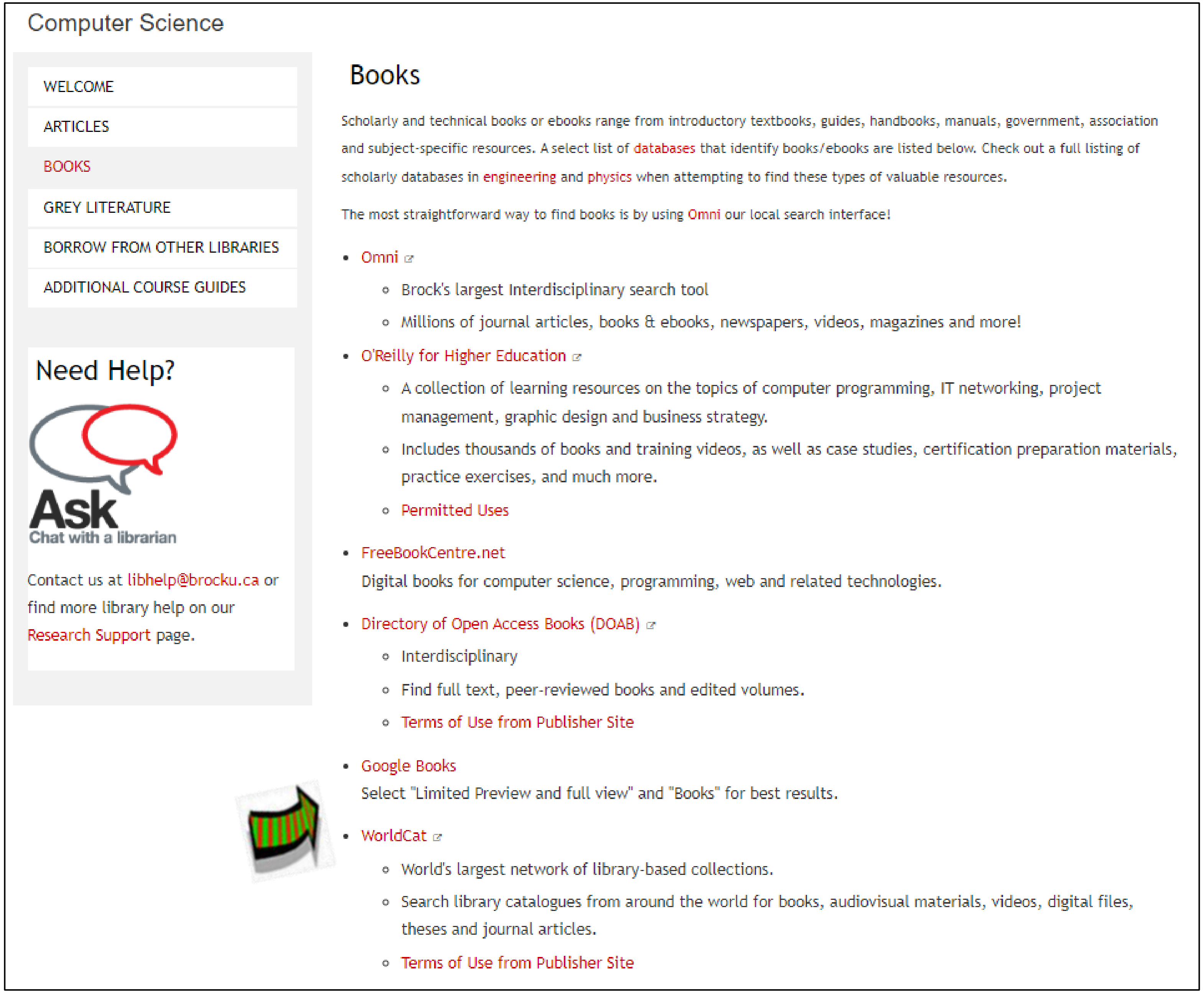

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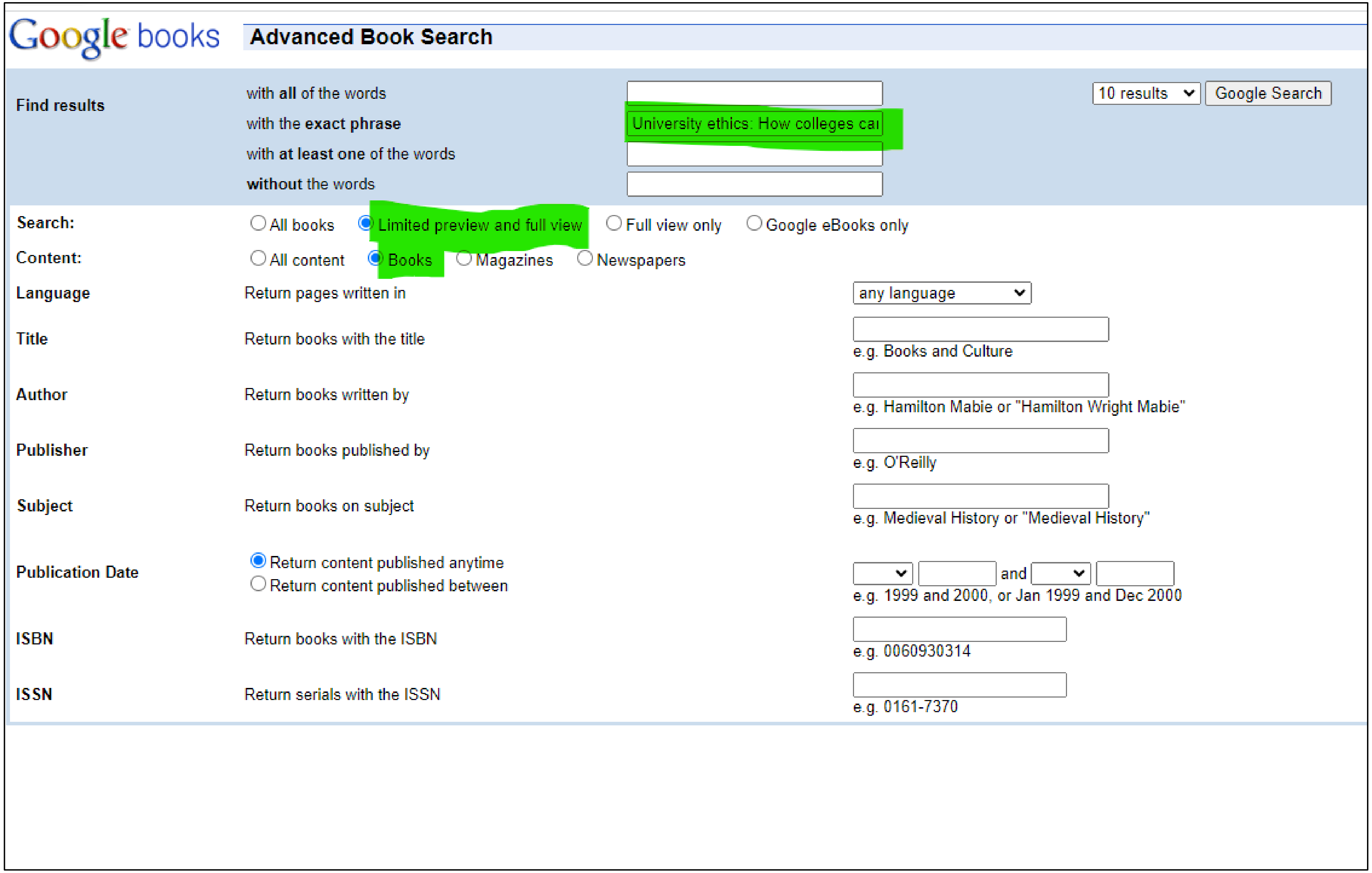

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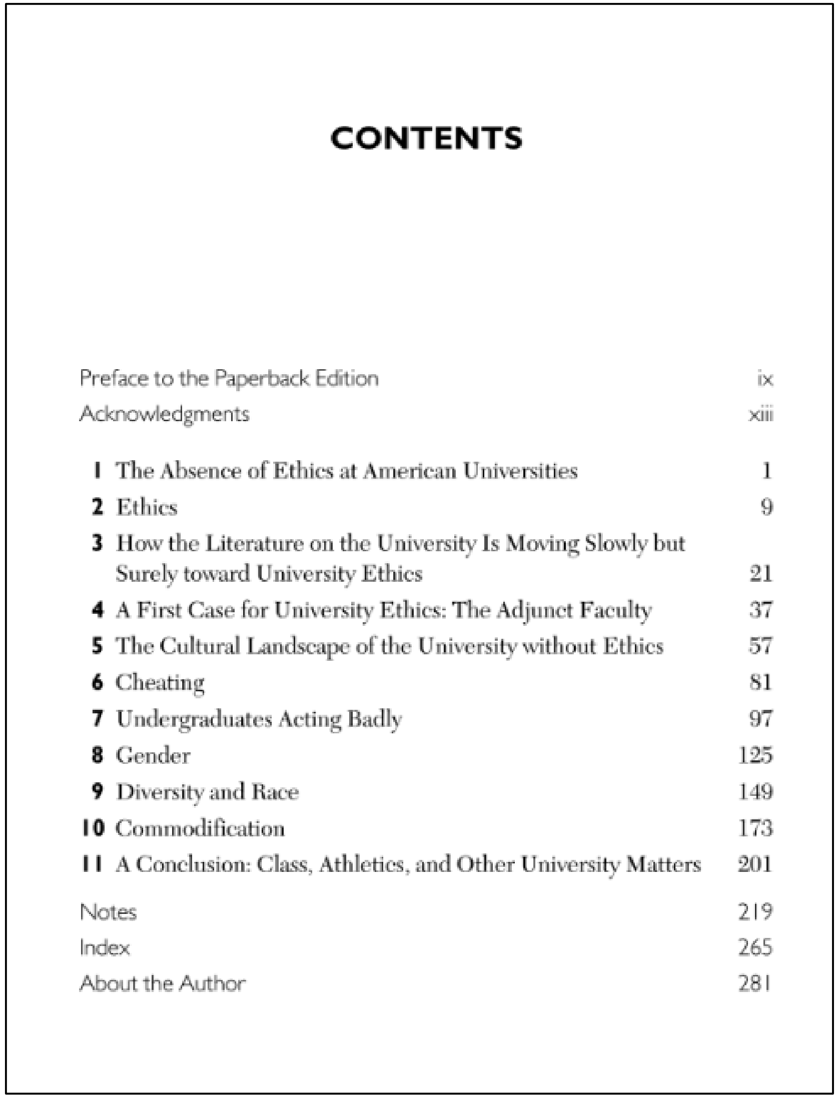

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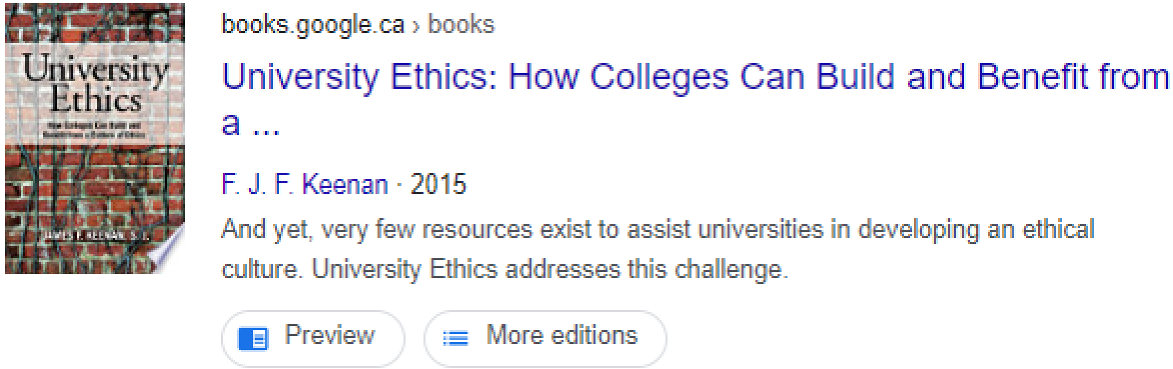

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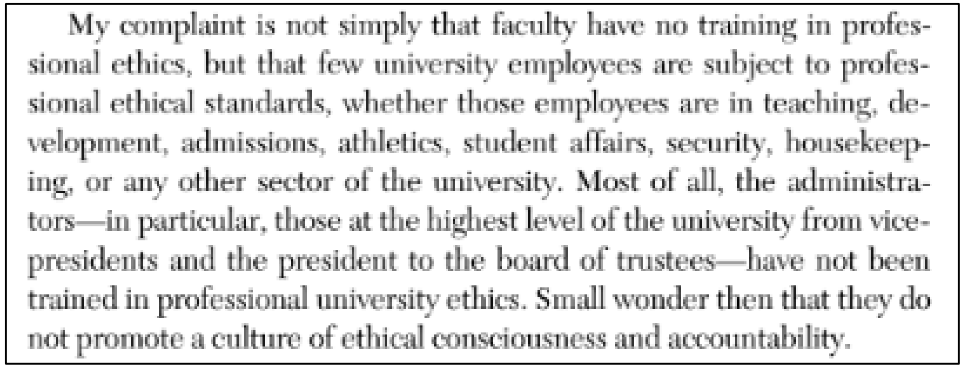
University Ethics: How Colleges Can Build and Benefit from a ...

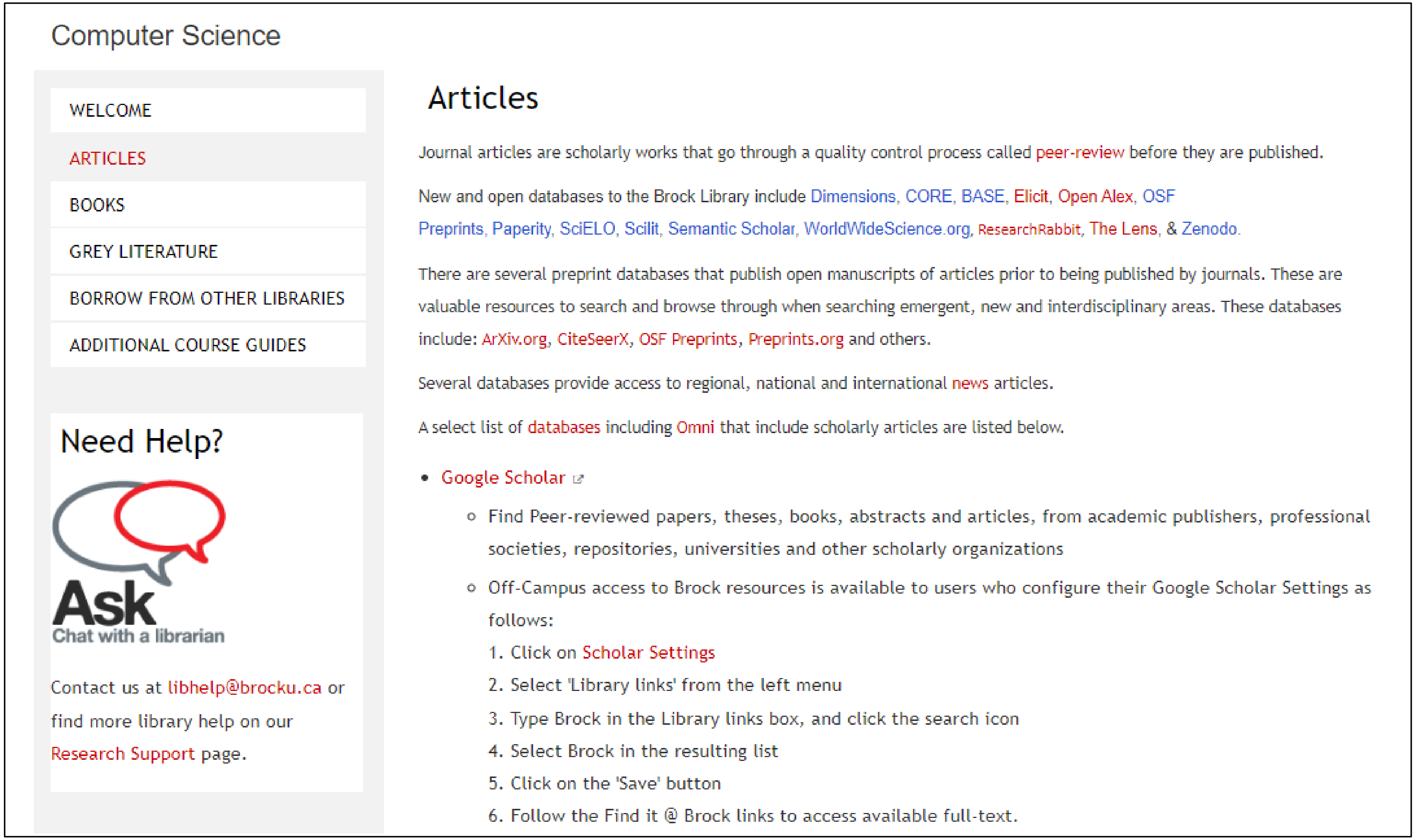
F. J. F. Keenan · 2015

And yet, very few resources exist to assist universities in developing an ethical culture. University Ethics addresses this challenge.

Keenan, J. F. (2015). *University ethics: How colleges can build and benefit from a culture of ethics*. Rowman & Littlefield.



My complaint is not simply that faculty have no training in professional ethics, but that few university employees are subject to professional ethical standards, whether those employees are in teaching, development, admissions, athletics, student affairs, security, housekeeping, or any other sector of the university. Most of all, the administrators—in particular, those at the highest level of the university from vice-presidents and the president to the board of trustees—have not been trained in professional university ethics. Small wonder then that they do not promote a culture of ethical consciousness and accountability.



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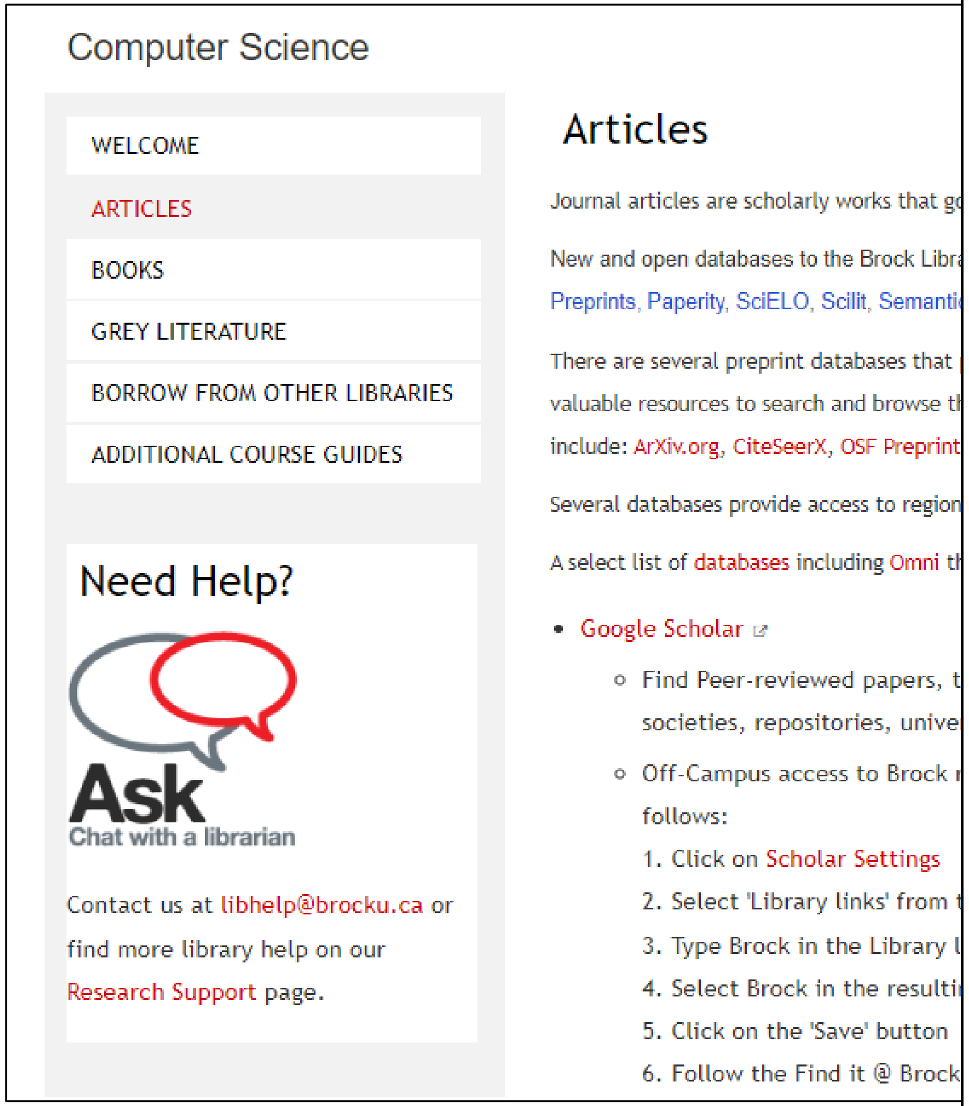

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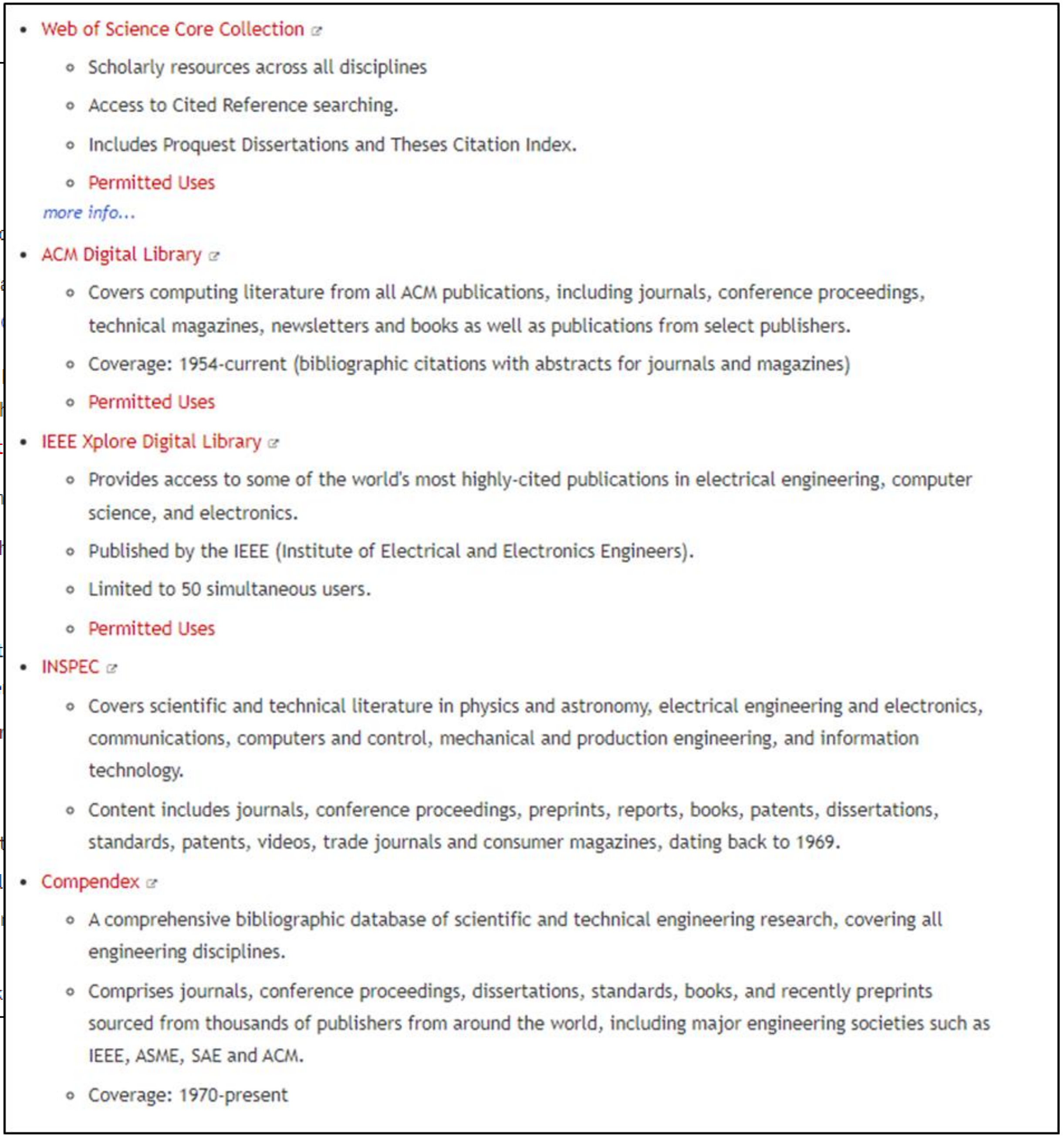

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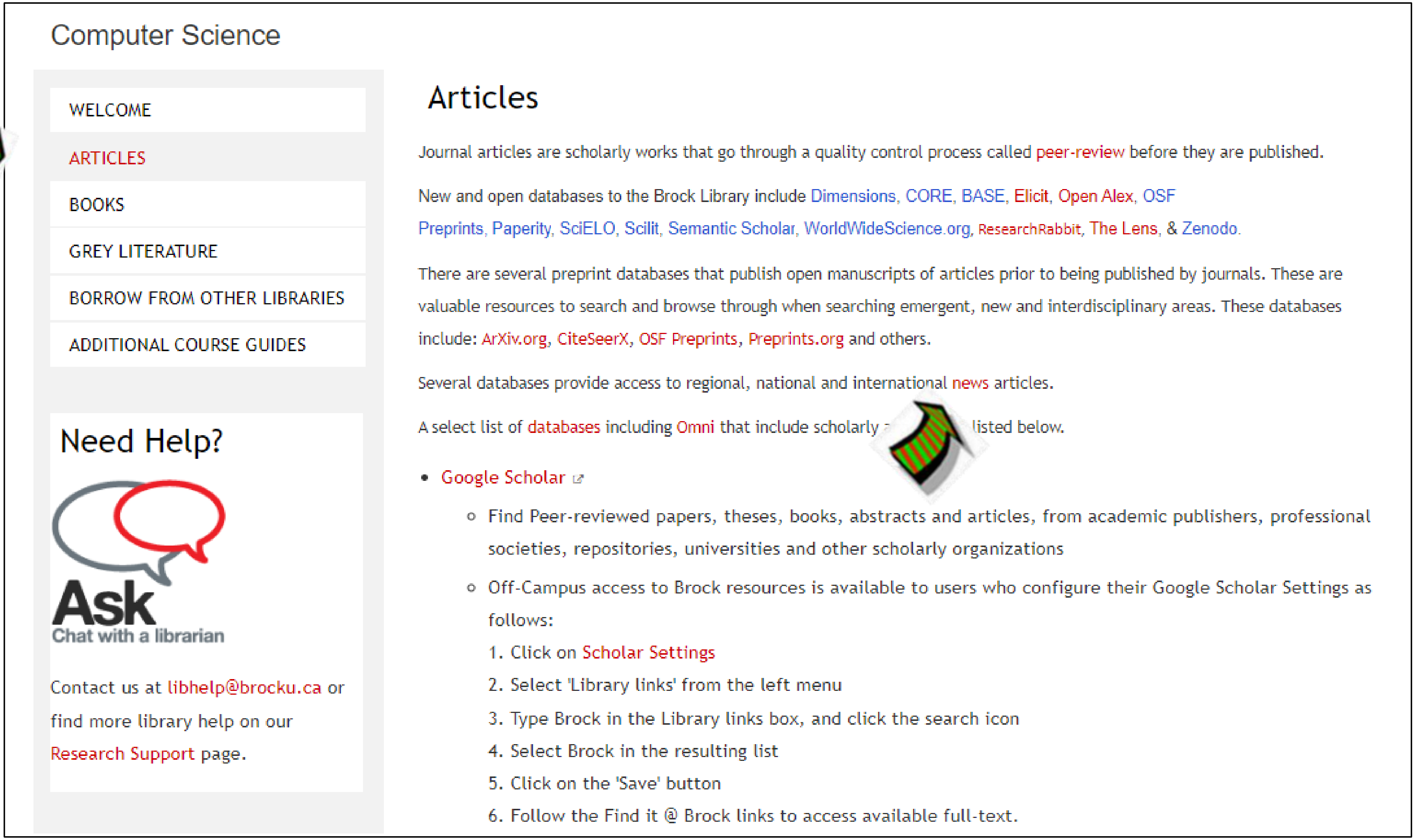

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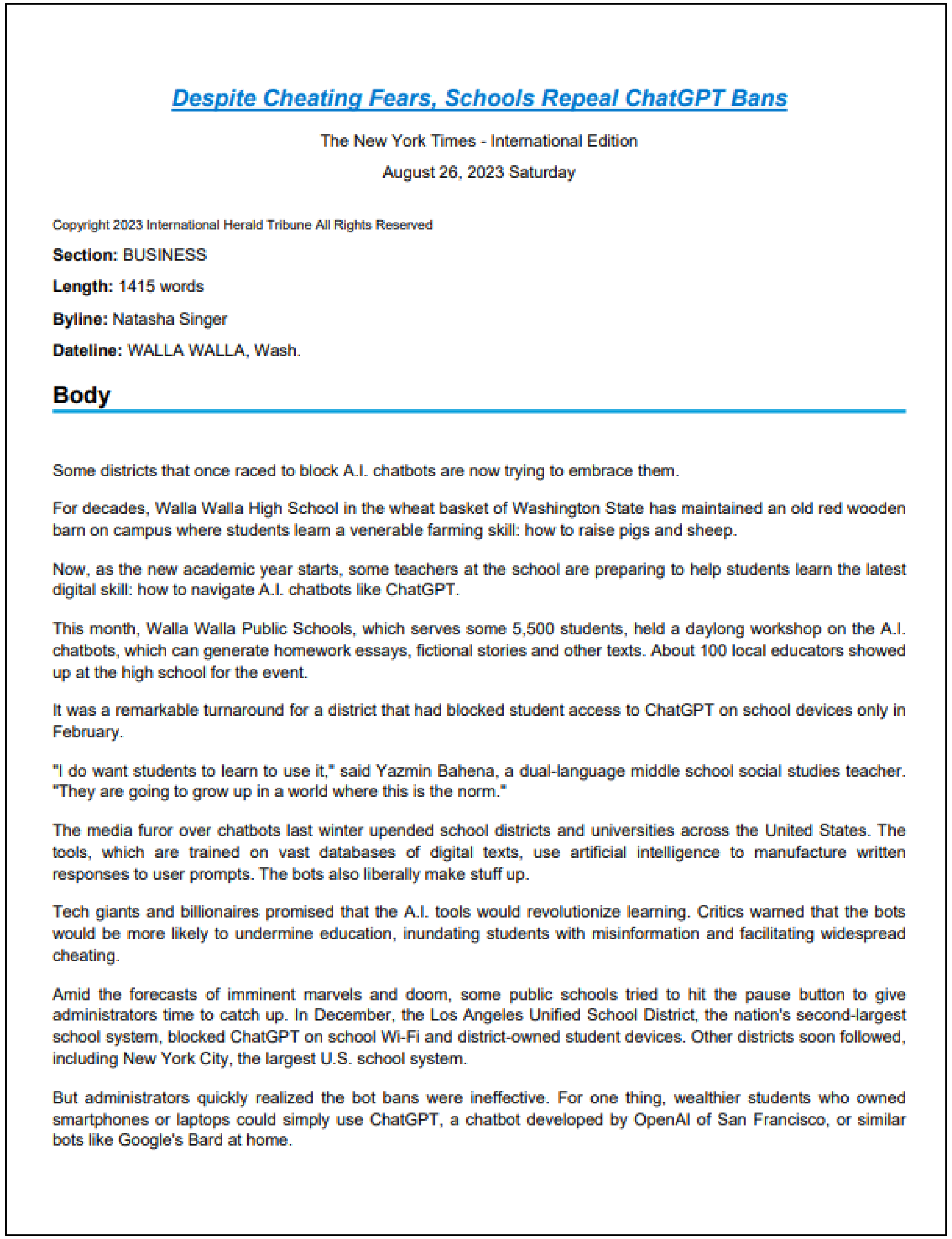

Despite Cheating Fears, Schools Repeal ChatGPT Bans

The New York Times - International Edition
August 26, 2023 Saturday

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Section: BUSINESS
Length: 1415 words
Byline: Natasha Singer
Dateline: WALLA WALLA, Wash.

Body

Some districts that once raced to block A.I. chatbots are now trying to embrace them.

For decades, Walla Walla High School in the wheat basket of Washington State has maintained an old red wooden barn on campus where students learn a venerable farming skill: how to raise pigs and sheep.

Now, as the new academic year starts, some teachers at the school are preparing to help students learn the latest digital skill: how to navigate A.I. chatbots like ChatGPT.

This month, Walla Walla Public Schools, which serves some 5,500 students, held a daylong workshop on the A.I. chatbots, which can generate homework essays, fictional stories and other texts. About 100 local educators showed up at the high school for the event.

It was a remarkable turnaround for a district that had blocked student access to ChatGPT on school devices only in February.

"I do want students to learn to use it," said Yazmin Bahena, a dual-language middle school social studies teacher. "They are going to grow up in a world where this is the norm."

The media furor over chatbots last winter upended school districts and universities across the United States. The tools, which are trained on vast databases of digital texts, use artificial intelligence to manufacture written responses to user prompts. The bots also liberally make stuff up.

Tech giants and billionaires promised that the A.I. tools would revolutionize learning. Critics warned that the bots would be more likely to undermine education, inundating students with misinformation and facilitating widespread cheating.

Amid the forecasts of imminent marvels and doom, some public schools tried to hit the pause button to give administrators time to catch up. In December, the Los Angeles Unified School District, the nation's second-largest school system, blocked ChatGPT on school Wi-Fi and district-owned student devices. Other districts soon followed, including New York City, the largest U.S. school system.

But administrators quickly realized the bot bans were ineffective. For one thing, wealthier students who owned smartphones or laptops could simply use ChatGPT, a chatbot developed by OpenAI of San Francisco, or similar bots like Google's Bard at home.

Singer, N. (2023, Aug 26). Despite cheating fears, schools repeal ChatGPT bans. *New York Times*.

"The world our kids are inheriting is going to be full of A.I., and we need to make sure they are well equipped for it, both the benefits and the drawbacks," Wade Smith, the superintendent of Walla Walla Public Schools, said in a recent interview. "Putting our heads behind the curtain or under the sheets and hoping it goes away is simply not reality."

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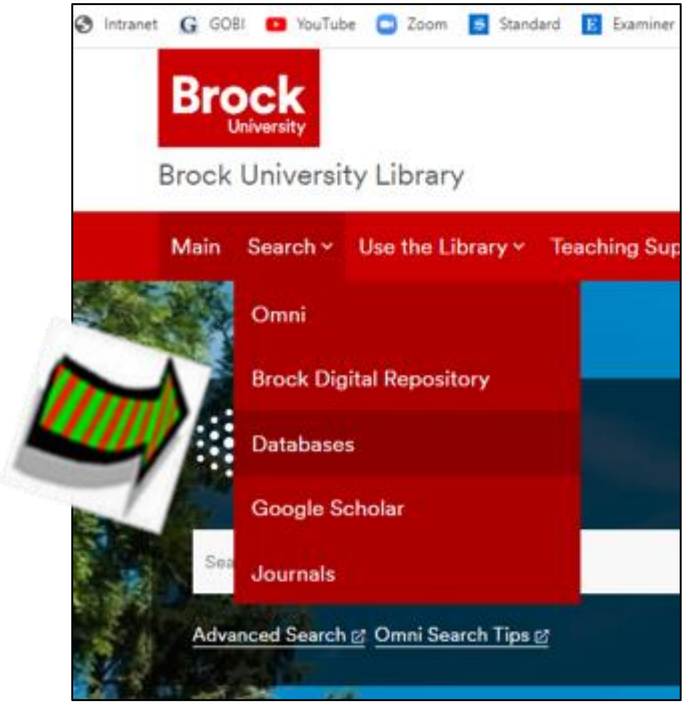

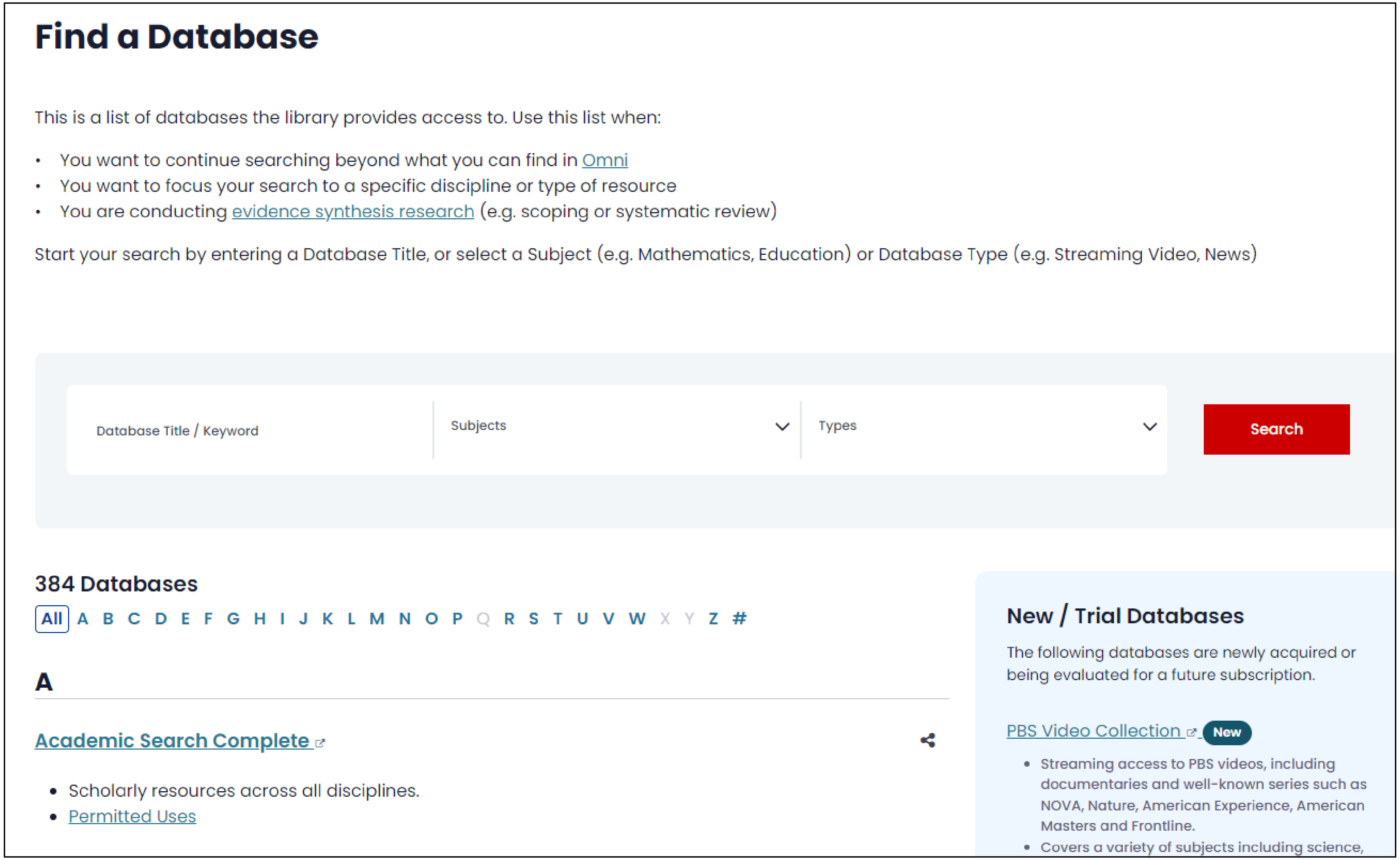

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384 Databases

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Academic Search Complete

- Scholarly resources across all disciplines.
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New / Trial Databases

The following databases are newly acquired or being evaluated for a future subscription.

PBS Video Collection **New**

- Streaming access to PBS videos, including documentaries and well-known series such as NOVA, Nature, American Experience, American Masters and Frontline.
- Covers a variety of subjects including science,

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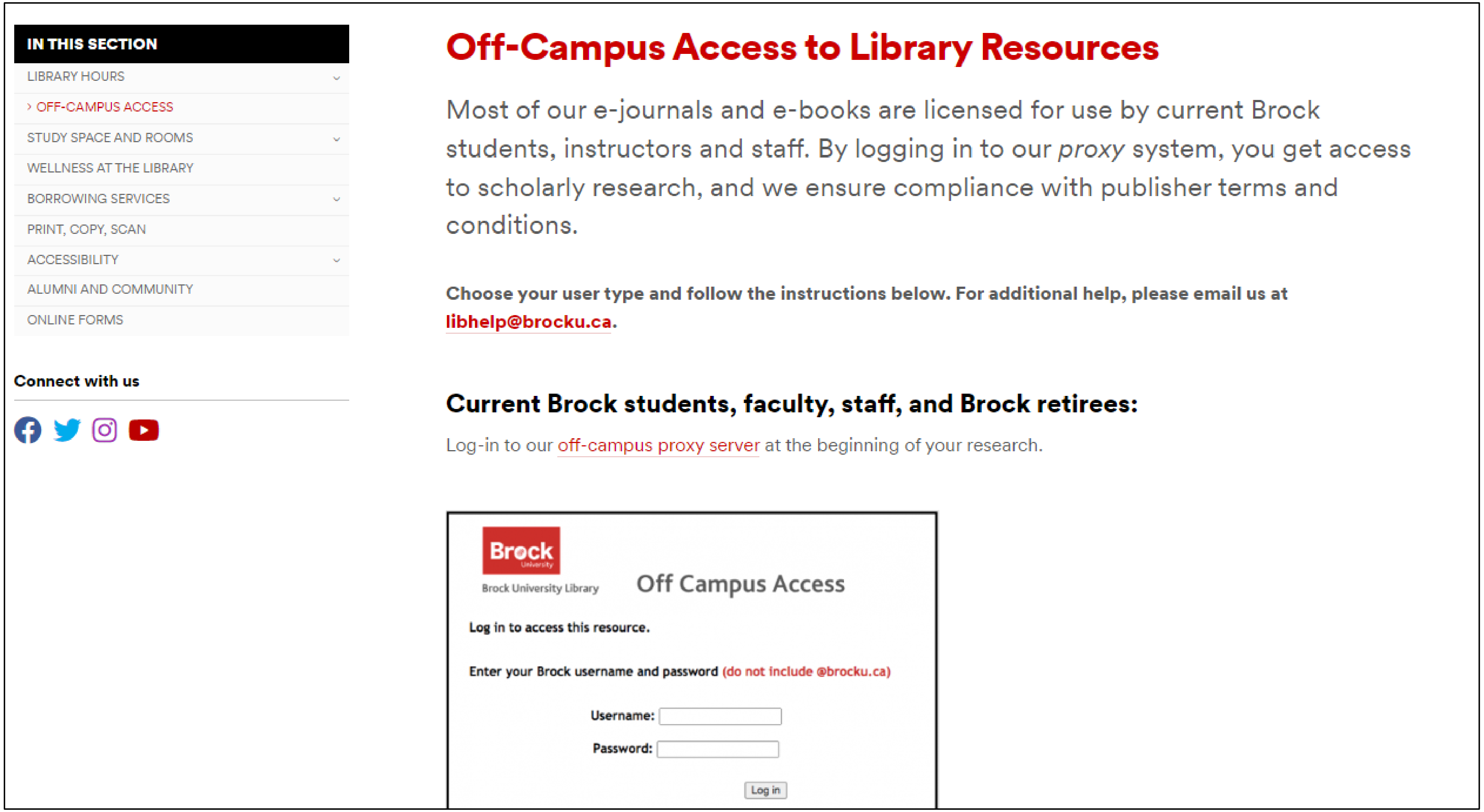

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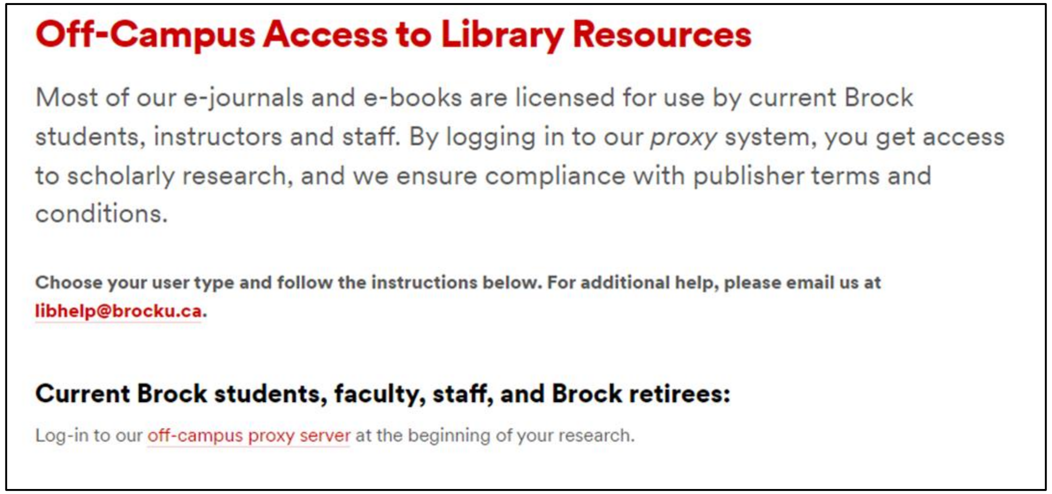

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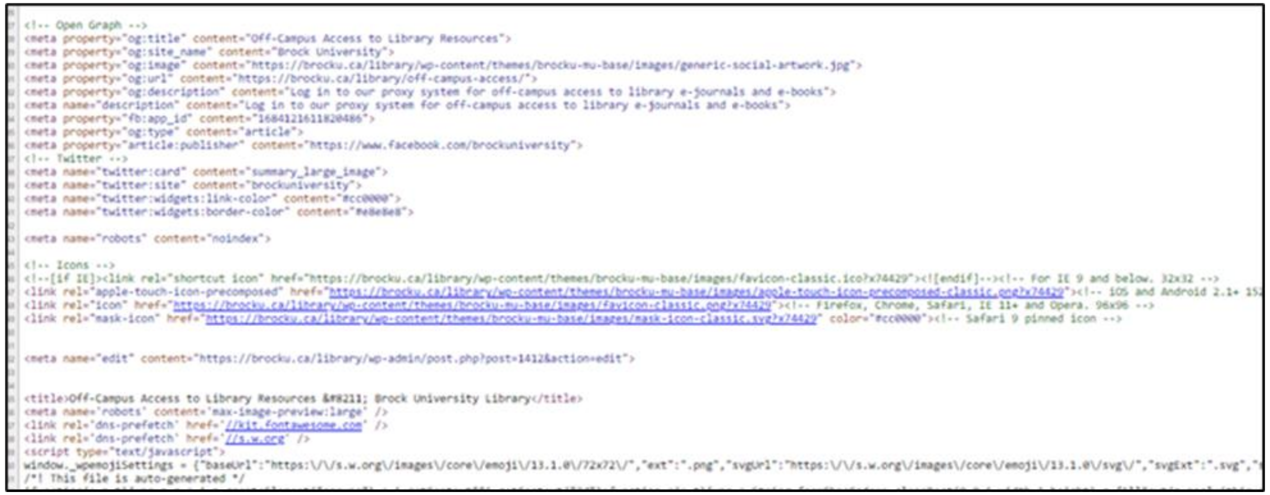

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Coding and programming

- Writing instructions for computers and other hardware
- The practical translation of idea, images, text… for computer applications
- Used for data compression, networking, cryptography, error detection and correction, data transmission, data harvesting, storage….

https://www.teachermagazine.com/au_en/articles/computing-programming-and-coding-in-schools

Library Seminar Agenda

- COSC Library Research Guide
- Databases – lots of them!
- Citation management
- What does it mean to be information literate
- Where, how and when to get help

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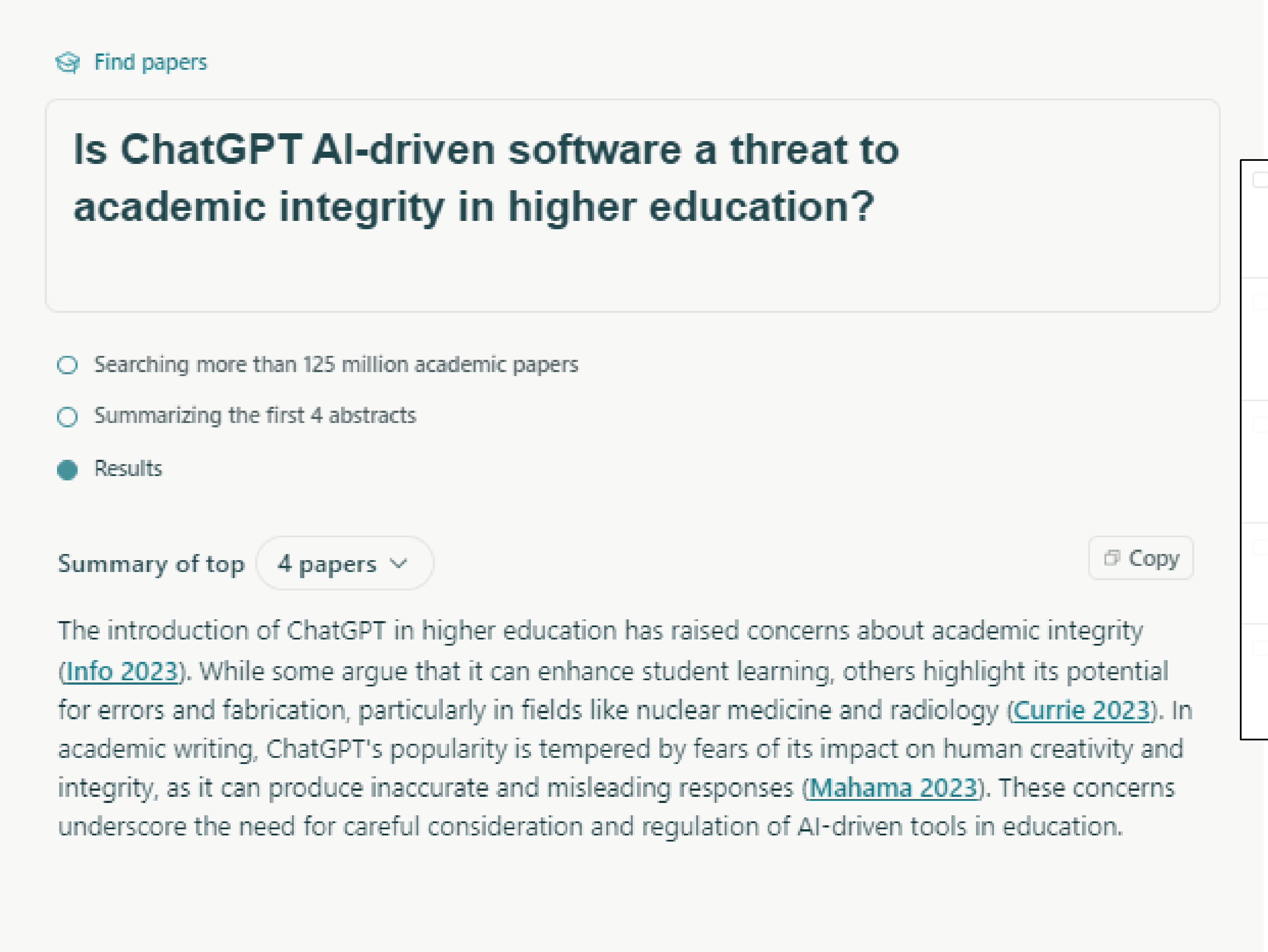


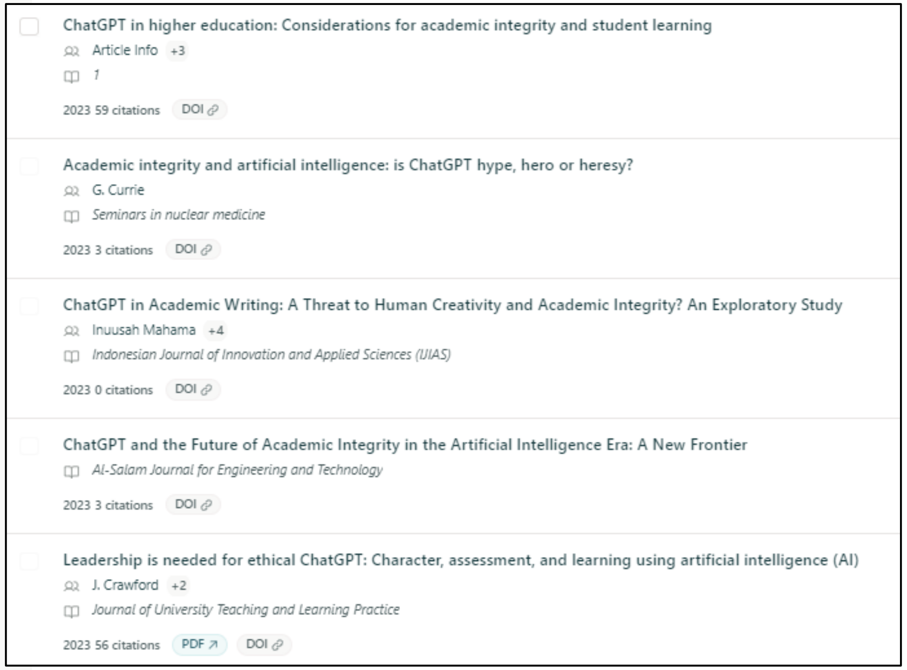
Is ChatGPT AI-driven software a threat to academic integrity in higher education?

○ Searching more than 125 million academic papers

○ Summarizing the first 4 abstracts

● Results

The introduction of ChatGPT in higher education has raised concerns about academic integrity (Info 2023). While some argue that it can enhance student learning, others highlight its potential for errors and fabrication, particularly in fields like nuclear medicine and radiology (Currie 2023). In academic writing, ChatGPT's popularity is tempered by fears of its impact on human creativity and integrity, as it can produce inaccurate and misleading responses (Mahama 2023). These concerns underscore the need for careful consideration and regulation of AI-driven tools in education.



☐ ChatGPT in higher education: Considerations for academic integrity and student learning
Article Info +3
1
2023 59 citations DOI

☐ Academic integrity and artificial intelligence: is ChatGPT hype, hero or heresy?
G. Currie
Seminars in nuclear medicine
2023 3 citations DOI

☐ ChatGPT in Academic Writing: A Threat to Human Creativity and Academic Integrity? An Exploratory Study
Inuusah Mahama +4
Indonesian Journal of Innovation and Applied Sciences (IJIAS)
2023 0 citations DOI

☐ ChatGPT and the Future of Academic Integrity in the Artificial Intelligence Era: A New Frontier
Al-Salam Journal for Engineering and Technology
2023 3 citations DOI

☐ Leadership is needed for ethical ChatGPT: Character, assessment, and learning using artificial intelligence (AI)
J. Crawford +2
Journal of University Teaching and Learning Practice
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https://www.undermind.ai/

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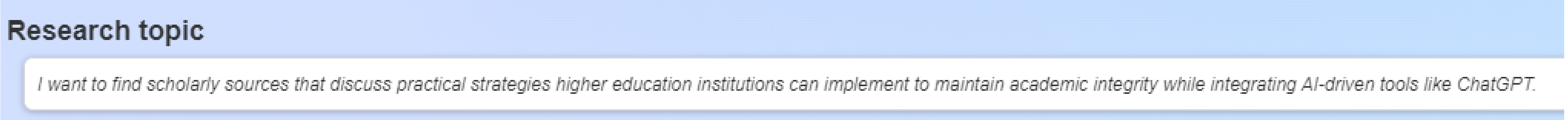

Research topic

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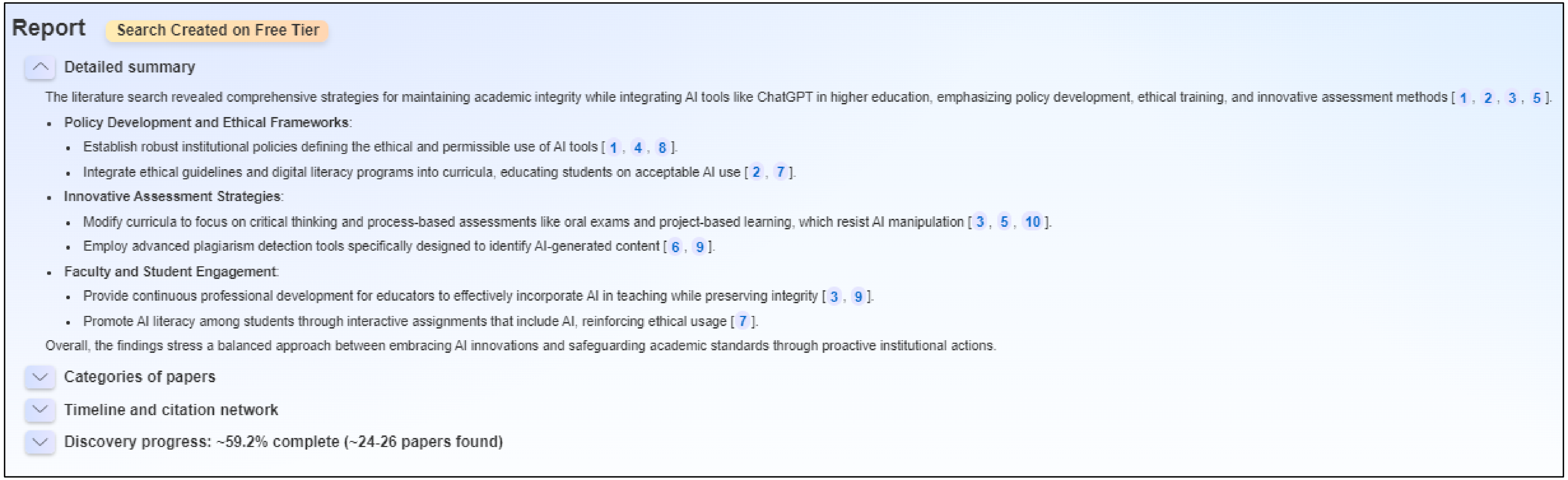


Report

Detailed summary

The literature search revealed comprehensive strategies for maintaining academic integrity while integrating AI tools like ChatGPT in higher education, emphasizing policy development, ethical training, and innovative assessment methods [1, 2, 3, 5].

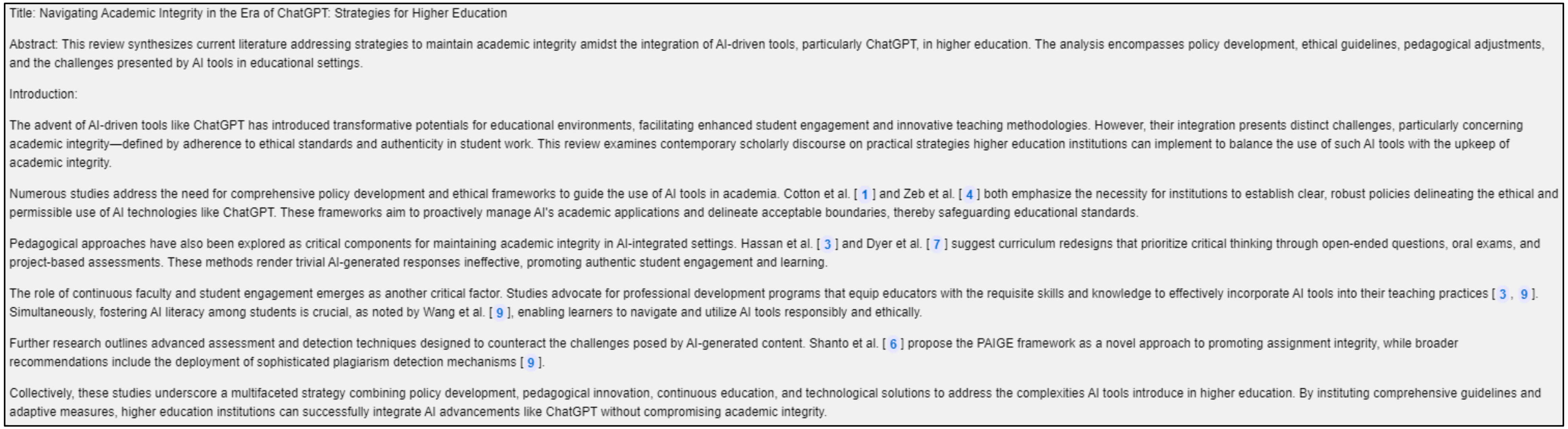
- Policy Development and Ethical Frameworks:
  - Establish robust institutional policies defining the ethical and permissible use of AI tools [1, 4, 8].
  - Integrate ethical guidelines and digital literacy programs into curricula, educating students on acceptable AI use [2, 7].
- Innovative Assessment Strategies:
  - Modify curricula to focus on critical thinking and process-based assessments like oral exams and project-based learning, which resist AI manipulation [3, 5, 10].
  - Employ advanced plagiarism detection tools specifically designed to identify AI-generated content [6, 9].
- Faculty and Student Engagement:
  - Provide continuous professional development for educators to effectively incorporate AI in teaching while preserving integrity [3, 9].
  - Promote AI literacy among students through interactive assignments that include AI, reinforcing ethical usage [7].

Overall, the findings stress a balanced approach between embracing AI innovations and safeguarding academic standards through proactive institutional actions.

Categories of papers

Timeline and citation network

Discovery progress: ~59.2% complete (~24-26 papers found)



Title: Navigating Academic Integrity in the Era of ChatGPT: Strategies for Higher Education

Abstract: This review synthesizes current literature addressing strategies to maintain academic integrity amidst the integration of AI-driven tools, particularly ChatGPT, in higher education. The analysis encompasses policy development, ethical guidelines, pedagogical adjustments, and the challenges presented by AI tools in educational settings.

Introduction:

The advent of AI-driven tools like ChatGPT has introduced transformative potentials for educational environments, facilitating enhanced student engagement and innovative teaching methodologies. However, their integration presents distinct challenges, particularly concerning academic integrity—defined by adherence to ethical standards and authenticity in student work. This review examines contemporary scholarly discourse on practical strategies higher education institutions can implement to balance the use of such AI tools with the upkeep of academic integrity.

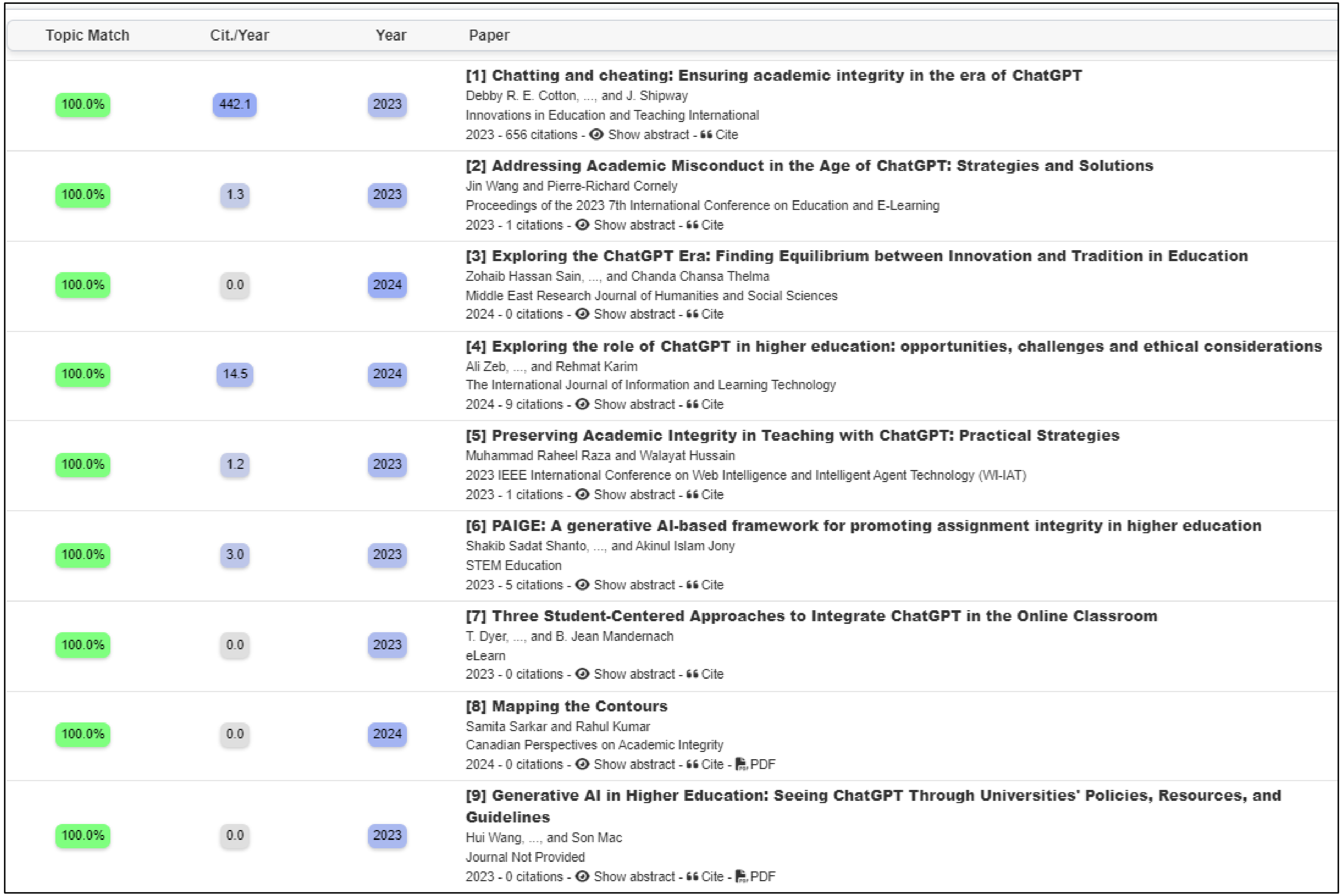
Numerous studies address the need for comprehensive policy development and ethical frameworks to guide the use of AI tools in academia. Cotton et al. [1] and Zeb et al. [4] both emphasize the necessity for institutions to establish clear, robust policies delineating the ethical and permissible use of AI technologies like ChatGPT. These frameworks aim to proactively manage AI's academic applications and delineate acceptable boundaries, thereby safeguarding educational standards.

Pedagogical approaches have also been explored as critical components for maintaining academic integrity in AI-integrated settings. Hassan et al. [3] and Dyer et al. [7] suggest curriculum redesigns that prioritize critical thinking through open-ended questions, oral exams, and project-based assessments. These methods render trivial AI-generated responses ineffective, promoting authentic student engagement and learning.

The role of continuous faculty and student engagement emerges as another critical factor. Studies advocate for professional development programs that equip educators with the requisite skills and knowledge to effectively incorporate AI tools into their teaching practices [3, 9]. Simultaneously, fostering AI literacy among students is crucial, as noted by Wang et al. [9], enabling learners to navigate and utilize AI tools responsibly and ethically.

Further research outlines advanced assessment and detection techniques designed to counteract the challenges posed by AI-generated content. Shanto et al. [6] propose the PAIGE framework as a novel approach to promoting assignment integrity, while broader recommendations include the deployment of sophisticated plagiarism detection mechanisms [9].

Collectively, these studies underscore a multifaceted strategy combining policy development, pedagogical innovation, continuous education, and technological solutions to address the complexities AI tools introduce in higher education. By instituting comprehensive guidelines and adaptive measures, higher education institutions can successfully integrate AI advancements like ChatGPT without compromising academic integrity.



Topic Match	Cit./Year	Year	Paper
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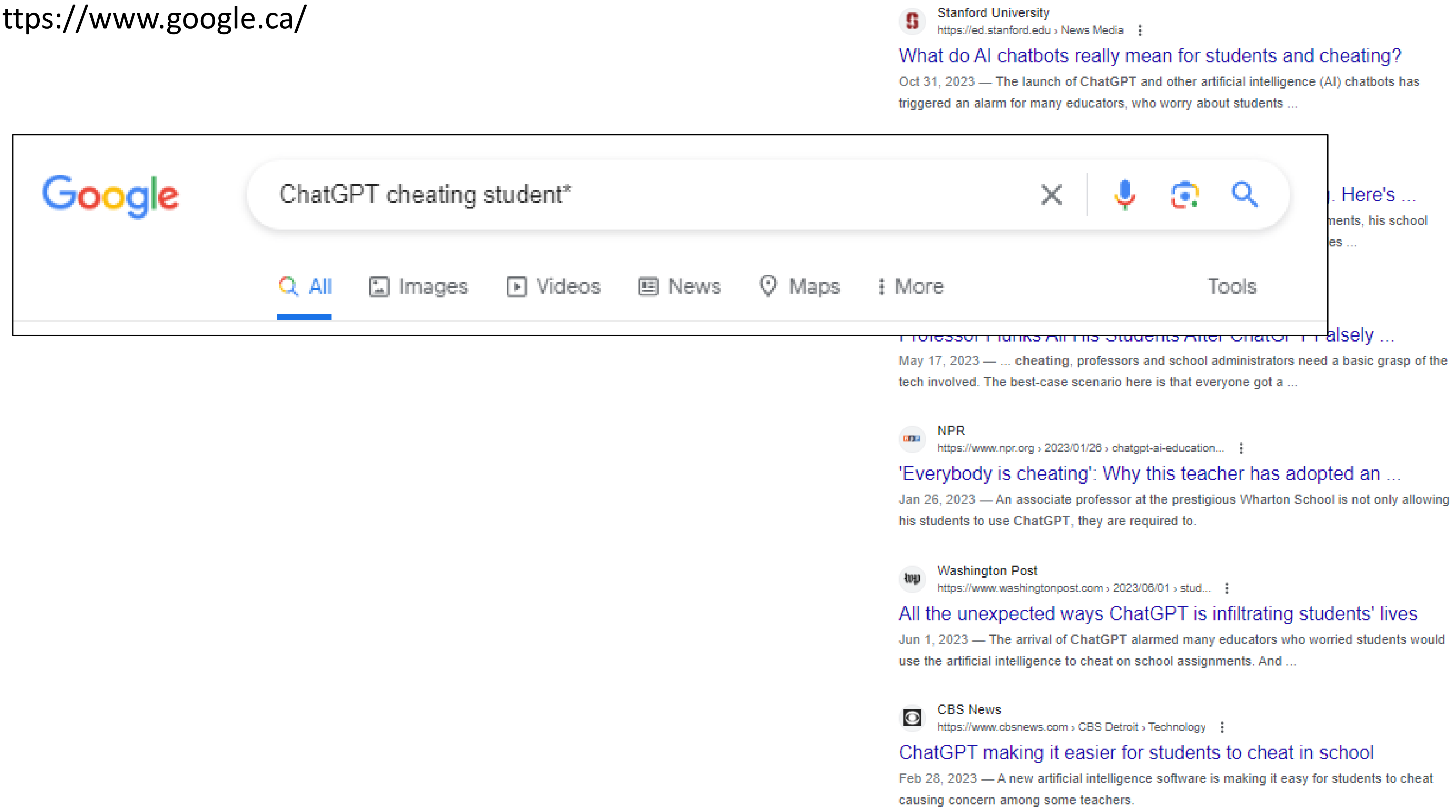

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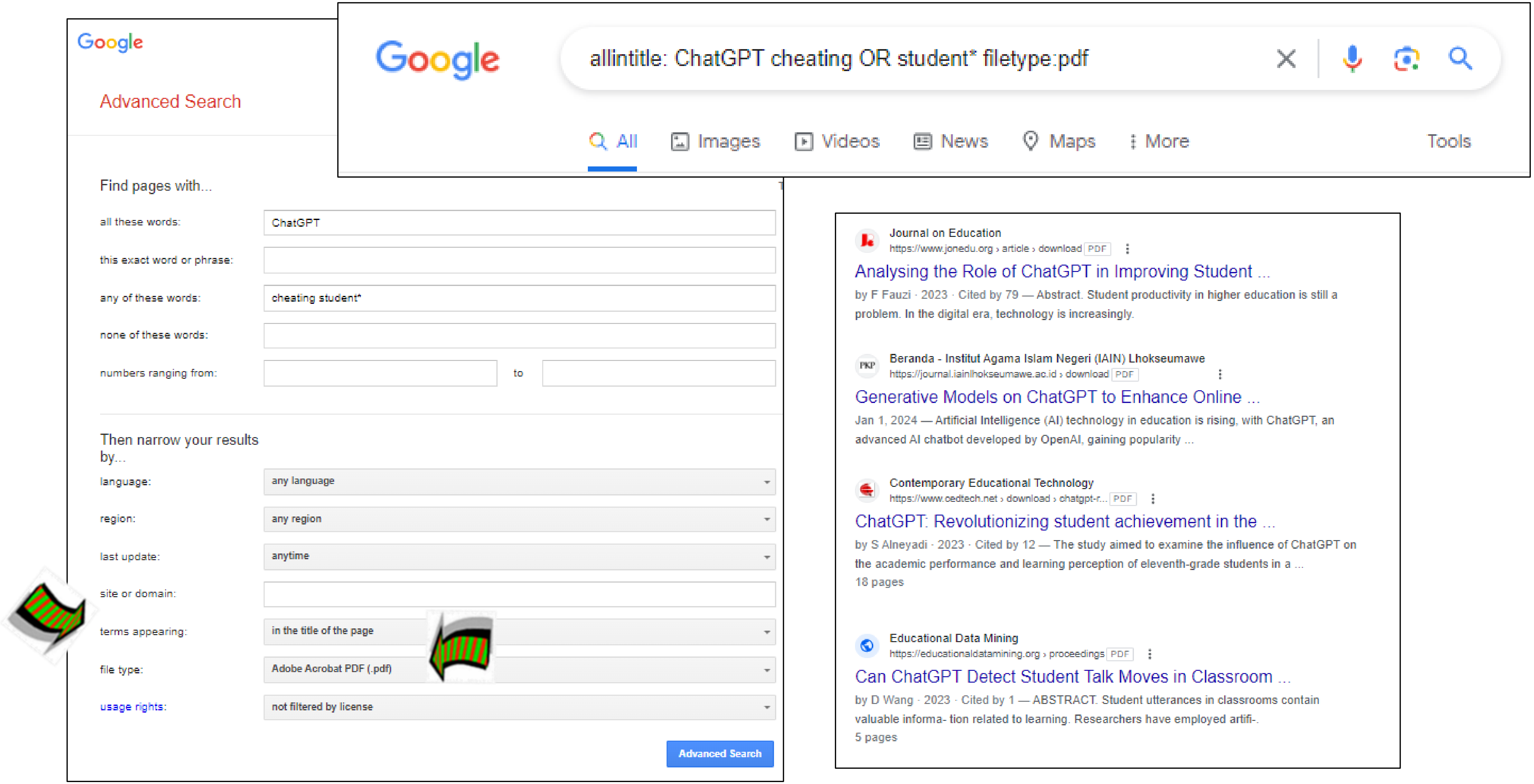

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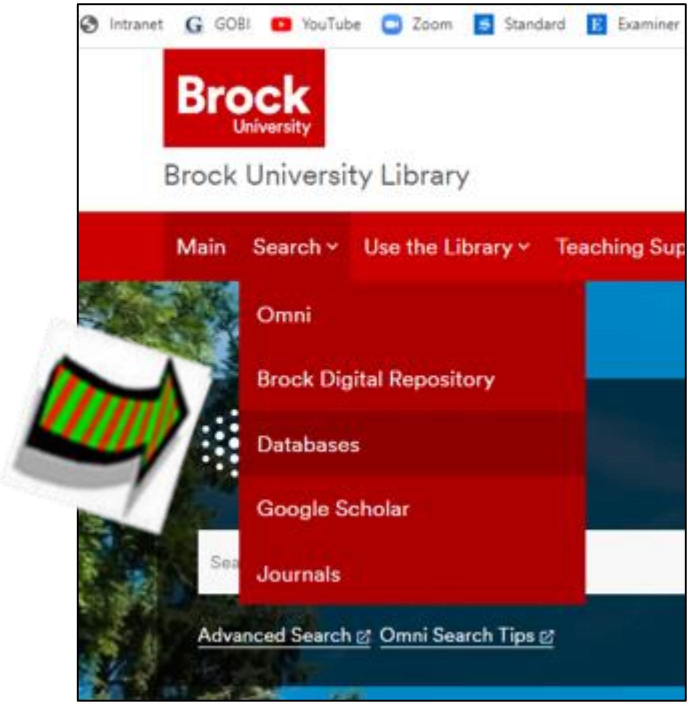

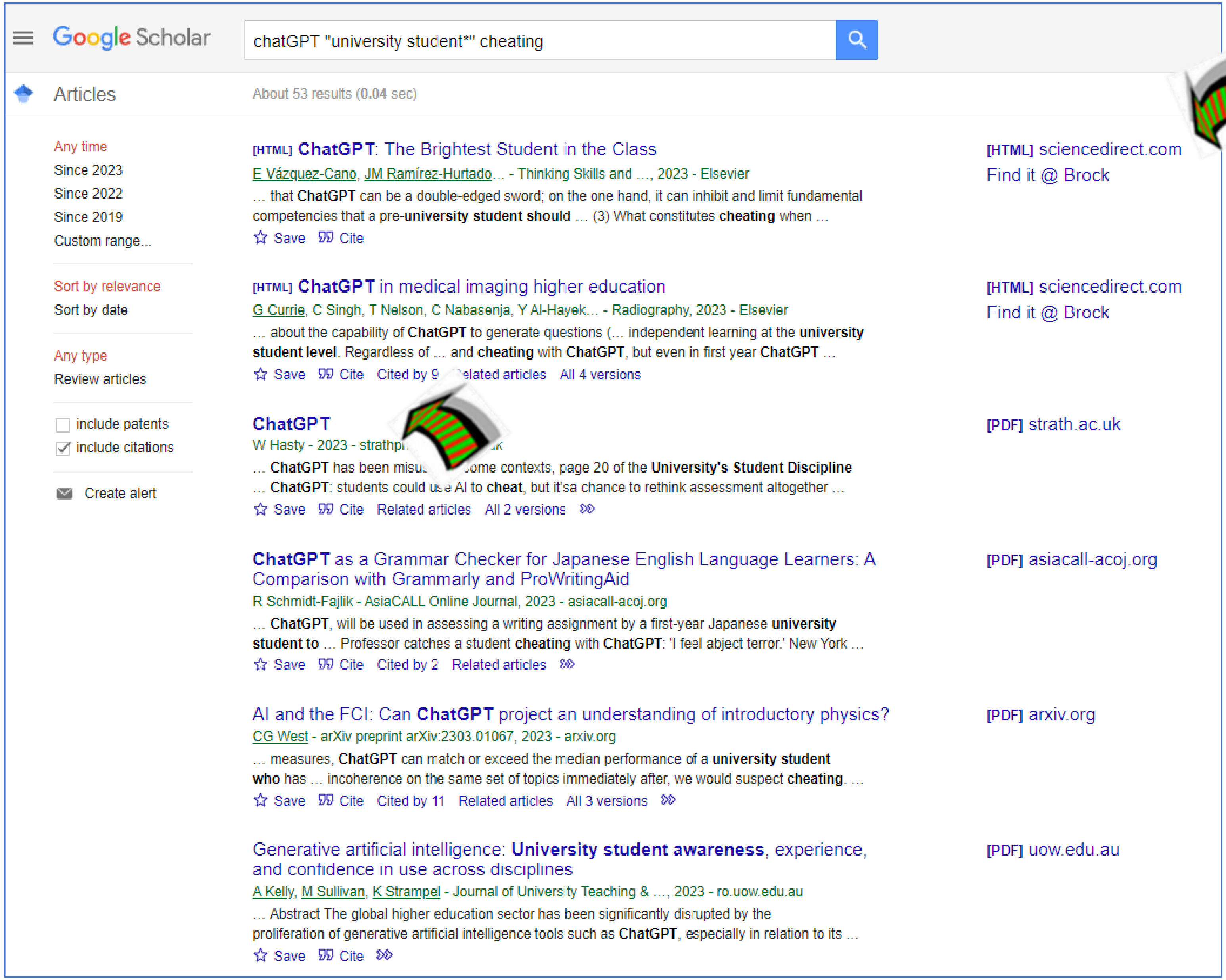

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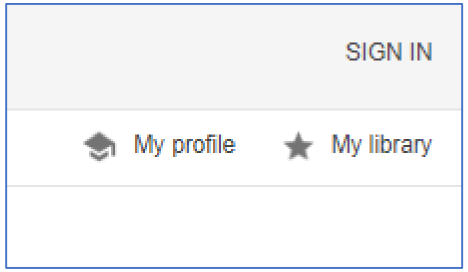

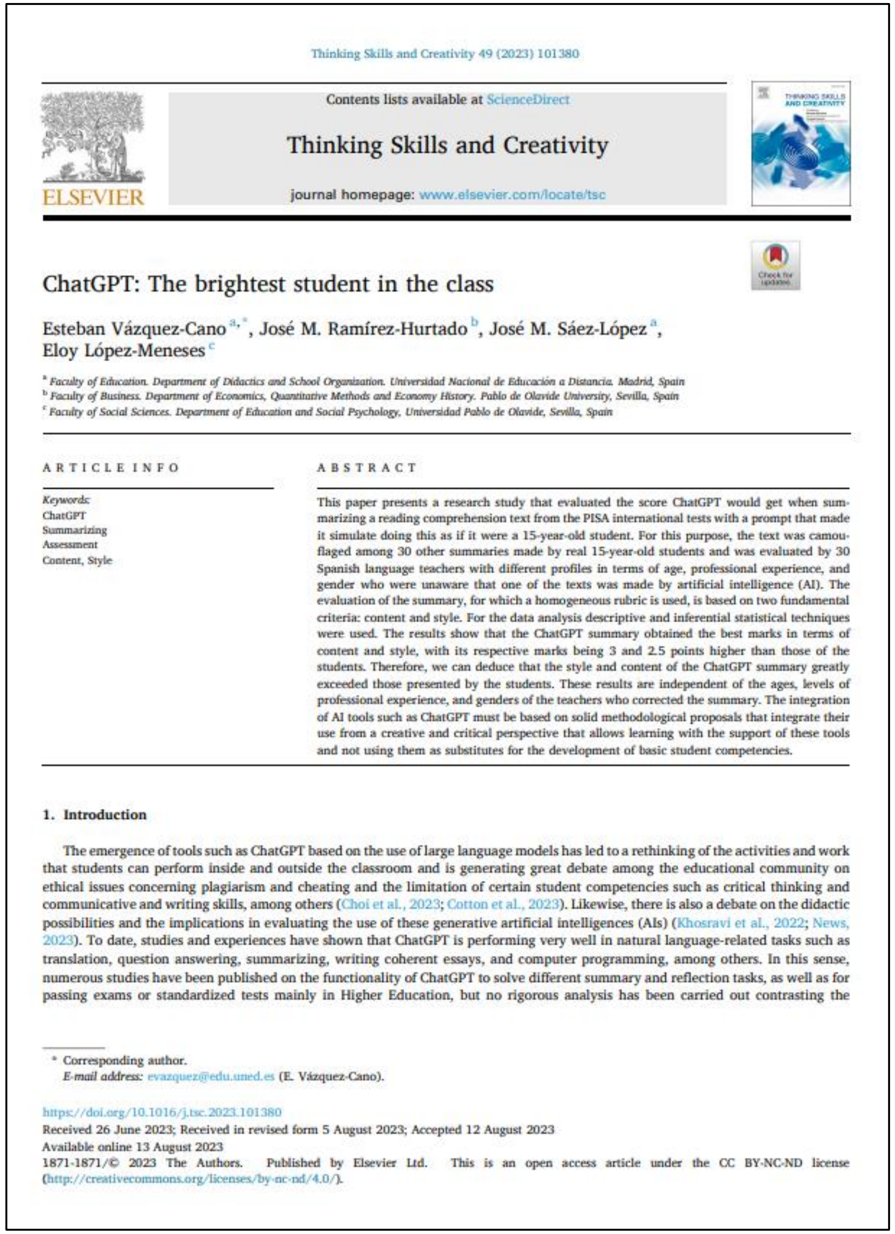

Thinking Skills and Creativity 49 (2023) 101380

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ChatGPT: The brightest student in the class

Esteban Vázquez-Cano[a,*], José M. Ramírez-Hurtado[b], José M. Sáez-López[a],
Eloy López-Meneses[c]

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[b] *Faculty of Business. Department of Economics, Quantitative Methods and Economy History. Pablo de Olavide University, Sevilla, Spain*
[c] *Faculty of Social Sciences. Department of Education and Social Psychology, Universidad Pablo de Olavide, Sevilla, Spain*

ARTICLE INFO

Keywords:
ChatGPT
Summarizing
Assessment
Content, Style

ABSTRACT

This paper presents a research study that evaluated the score ChatGPT would get when summarizing a reading comprehension text from the PISA international tests with a prompt that made it simulate doing this as if it were a 15-year-old student. For this purpose, the text was camouflaged among 30 other summaries made by real 15-year-old students and was evaluated by 30 Spanish language teachers with different profiles in terms of age, professional experience, and gender who were unaware that one of the texts was made by artificial intelligence (AI). The evaluation of the summary, for which a homogeneous rubric is used, is based on two fundamental criteria: content and style. For the data analysis descriptive and inferential statistical techniques were used. The results show that the ChatGPT summary obtained the best marks in terms of content and style, with its respective marks being 3 and 2.5 points higher than those of the students. Therefore, we can deduce that the style and content of the ChatGPT summary greatly exceeded those presented by the students. These results are independent of the ages, levels of professional experience, and genders of the teachers who corrected the summary. The integration of AI tools such as ChatGPT must be based on solid methodological proposals that integrate their use from a creative and critical perspective that allows learning with the support of these tools and not using them as substitutes for the development of basic student competencies.

1. Introduction

The emergence of tools such as ChatGPT based on the use of large language models has led to a rethinking of the activities and work that students can perform inside and outside the classroom and is generating great debate among the educational community on ethical issues concerning plagiarism and cheating and the limitation of certain student competencies such as critical thinking and communicative and writing skills, among others (Choi et al., 2023; Cotton et al., 2023). Likewise, there is also a debate on the didactic possibilities and the implications in evaluating the use of these generative artificial intelligences (AIs) (Khosravi et al., 2022; News, 2023). To date, studies and experiences have shown that ChatGPT is performing very well in natural language-related tasks such as translation, question answering, summarizing, writing coherent essays, and computer programming, among others. In this sense, numerous studies have been published on the functionality of ChatGPT to solve different summary and reflection tasks, as well as for passing exams or standardized tests mainly in Higher Education, but no rigorous analysis has been carried out contrasting the

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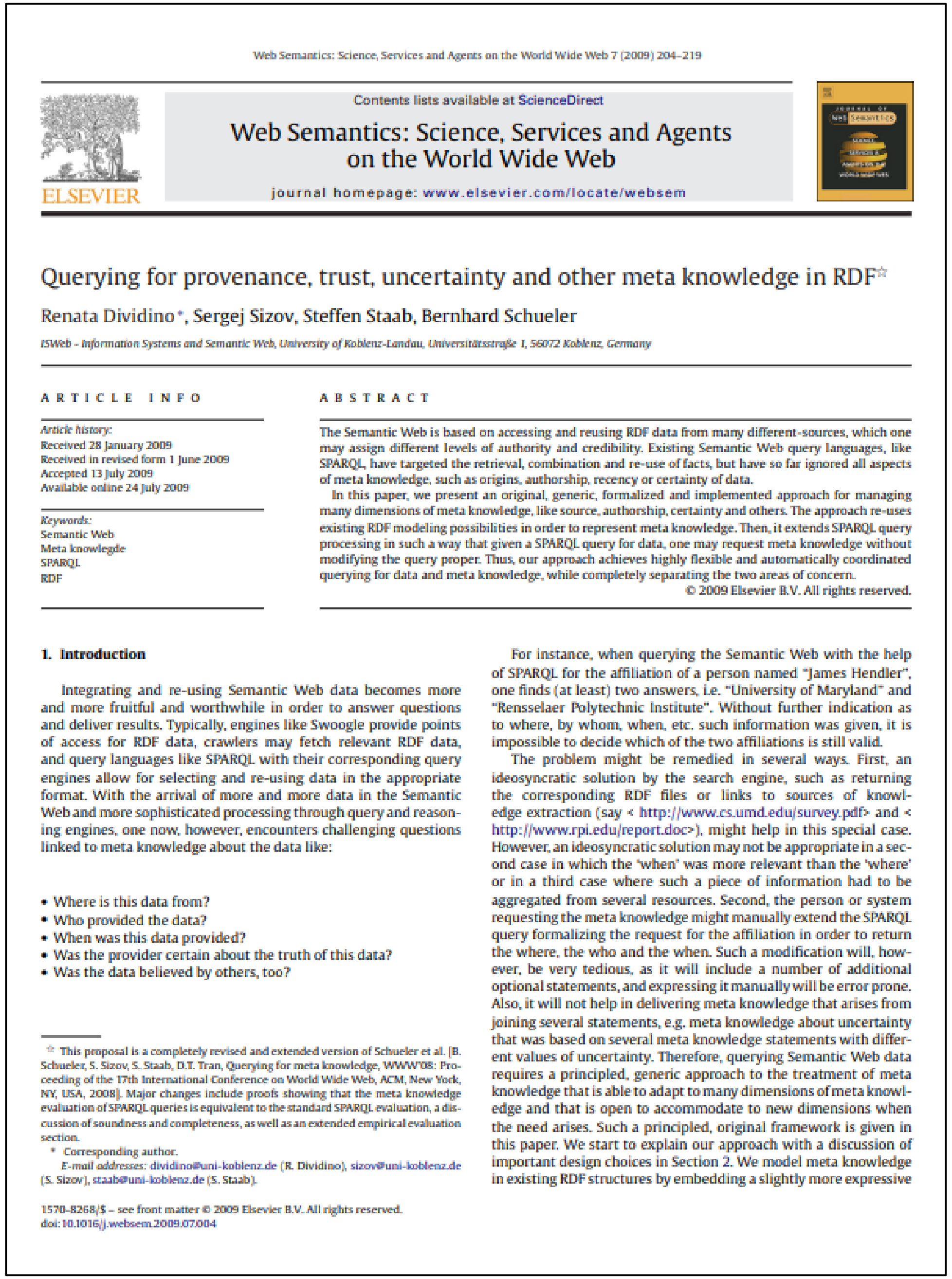

Web Semantics: Science, Services and Agents on the World Wide Web 7 (2009) 204–219

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Querying for provenance, trust, uncertainty and other meta knowledge in RDF[☆]

Renata Dividino*, Sergej Sizov, Steffen Staab, Bernhard Schueler

ISWeb - Information Systems and Semantic Web, University of Koblenz-Landau, Universitätsstraße 1, 56072 Koblenz, Germany

ARTICLE INFO

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Semantic Web
Meta knowlegde
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ABSTRACT

The Semantic Web is based on accessing and reusing RDF data from many different-sources, which one may assign different levels of authority and credibility. Existing Semantic Web query languages, like SPARQL, have targeted the retrieval, combination and re-use of facts, but have so far ignored all aspects of meta knowledge, such as origins, authorship, recency or certainty of data.

In this paper, we present an original, generic, formalized and implemented approach for managing many dimensions of meta knowledge, like source, authorship, certainty and others. The approach re-uses existing RDF modeling possibilities in order to represent meta knowledge. Then, it extends SPARQL query processing in such a way that given a SPARQL query for data, one may request meta knowledge without modifying the query proper. Thus, our approach achieves highly flexible and automatically coordinated querying for data and meta knowledge, while completely separating the two areas of concern.

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1. Introduction

Integrating and re-using Semantic Web data becomes more and more fruitful and worthwhile in order to answer questions and deliver results. Typically, engines like Swoogle provide points of access for RDF data, crawlers may fetch relevant RDF data, and query languages like SPARQL with their corresponding query engines allow for selecting and re-using data in the appropriate format. With the arrival of more and more data in the Semantic Web and more sophisticated processing through query and reasoning engines, one now, however, encounters challenging questions linked to meta knowledge about the data like:

- Where is this data from?
- Who provided the data?
- When was this data provided?
- Was the provider certain about the truth of this data?
- Was the data believed by others, too?

For instance, when querying the Semantic Web with the help of SPARQL for the affiliation of a person named "James Hendler", one finds (at least) two answers, i.e. "University of Maryland" and "Rensselaer Polytechnic Institute". Without further indication as to where, by whom, when, etc. such information was given, it is impossible to decide which of the two affiliations is still valid.

The problem might be remedied in several ways. First, an ideosyncratic solution by the search engine, such as returning the corresponding RDF files or links to sources of knowledge extraction (say < http://www.cs.umd.edu/survey.pdf> and < http://www.rpi.edu/report.doc>), might help in this special case. However, an ideosyncratic solution may not be appropriate in a second case in which the 'when' was more relevant than the 'where' or in a third case where such a piece of information had to be aggregated from several resources. Second, the person or system requesting the meta knowledge might manually extend the SPARQL query formalizing the request for the affiliation in order to return the where, the who and the when. Such a modification will, however, be very tedious, as it will include a number of additional optional statements, and expressing it manually will be error prone. Also, it will not help in delivering meta knowledge that arises from joining several statements, e.g. meta knowledge about uncertainty that was based on several meta knowledge statements with different values of uncertainty. Therefore, querying Semantic Web data requires a principled, generic approach to the treatment of meta knowledge that is able to adapt to many dimensions of meta knowledge and that is open to accommodate to new dimensions when the need arises. Such a principled, original framework is given in this paper. We start to explain our approach with a discussion of important design choices in Section 2. We model meta knowledge in existing RDF structures by embedding a slightly more expressive

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[☆] This proposal is a completely revised and extended version of Schueler et al. [B. Schueler, S. Sizov, S. Staab, D.T. Tran, Querying for meta knowledge, WWW'08: Proceeding of the 17th International Conference on World Wide Web, ACM, New York, NY, USA, 2008]. Major changes include proofs showing that the meta knowledge evaluation of SPARQL queries is equivalent to the standard SPARQL evaluation, a discussion of soundness and completeness, as well as an extended empirical evaluation section.

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Dividino, R., Sizov, S., Staab, S., & Schueler, B. (2009). Querying for provenance, trust, uncertainty and other meta knowledge in RDF. *Journal of Web Semantics*, 7(3), 204–219. https://doi.org/10.1016/j.websem.2009.07.004

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- Library cultivates the content more closely on the way in
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- Google finds the value of the relationships between documents
- Google treats everything as a webpage (more or less)

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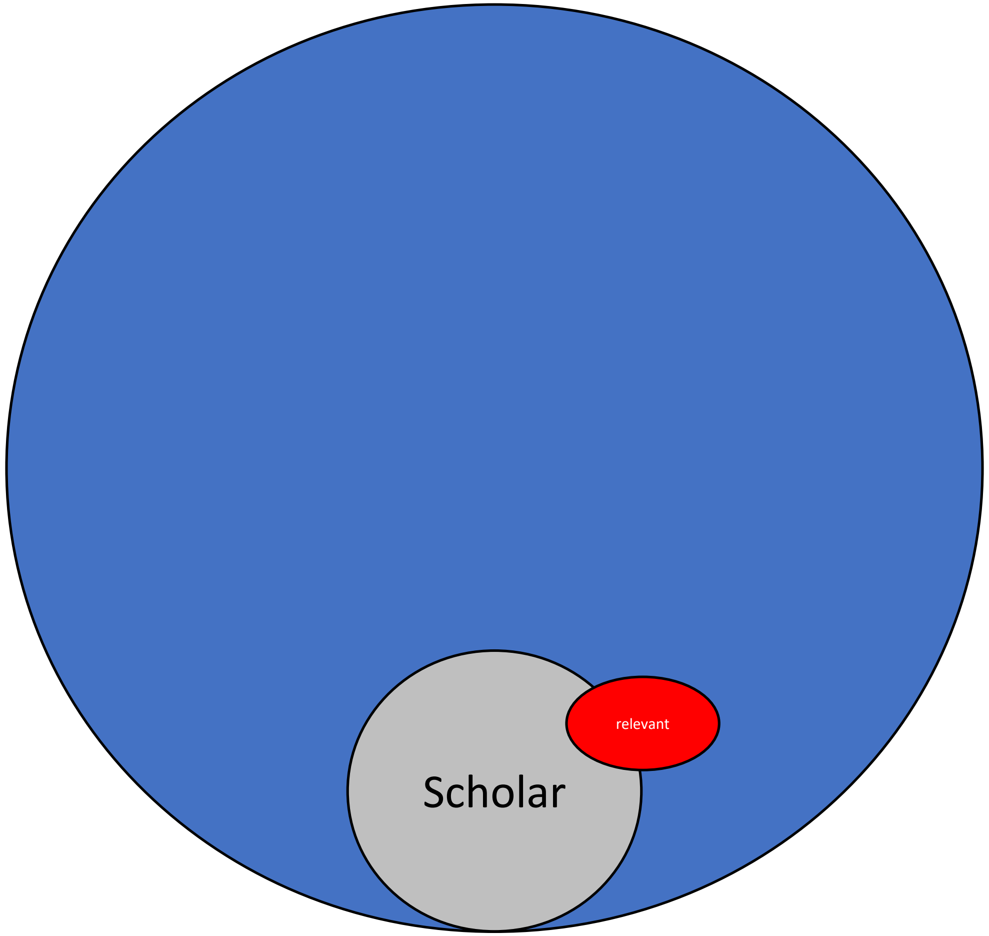

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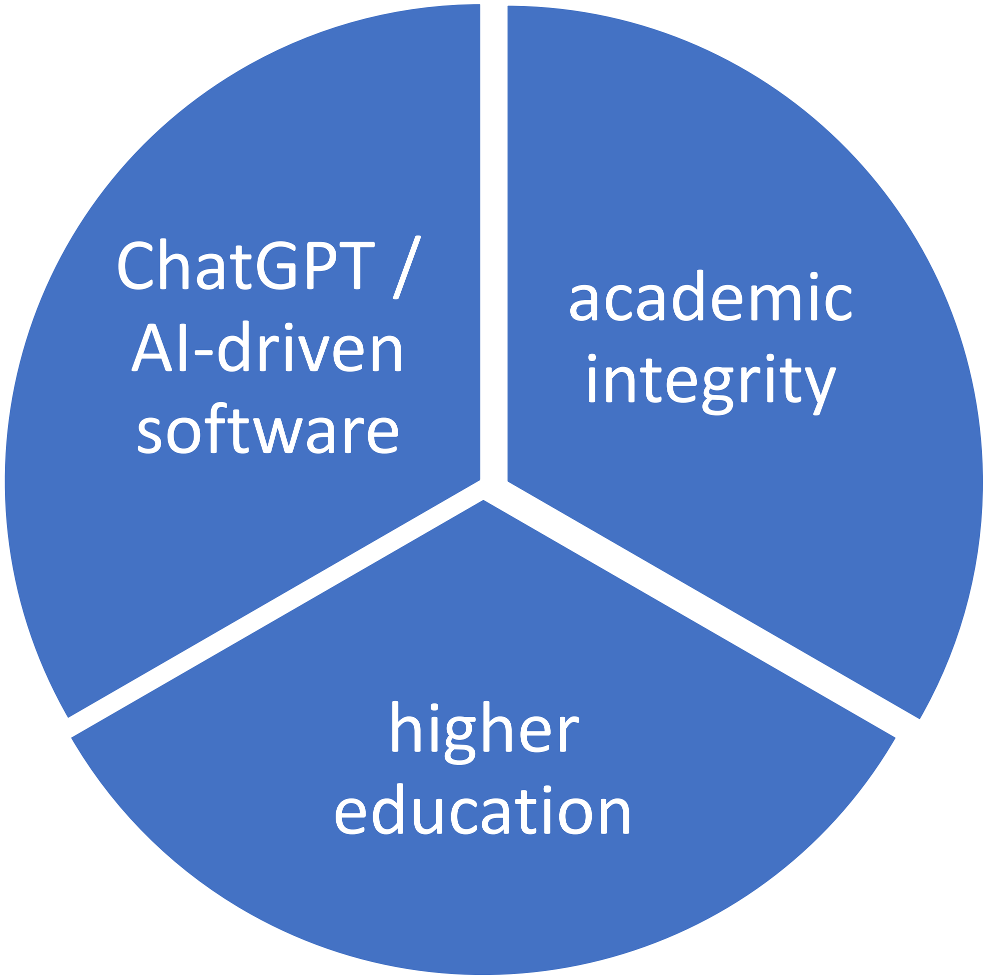

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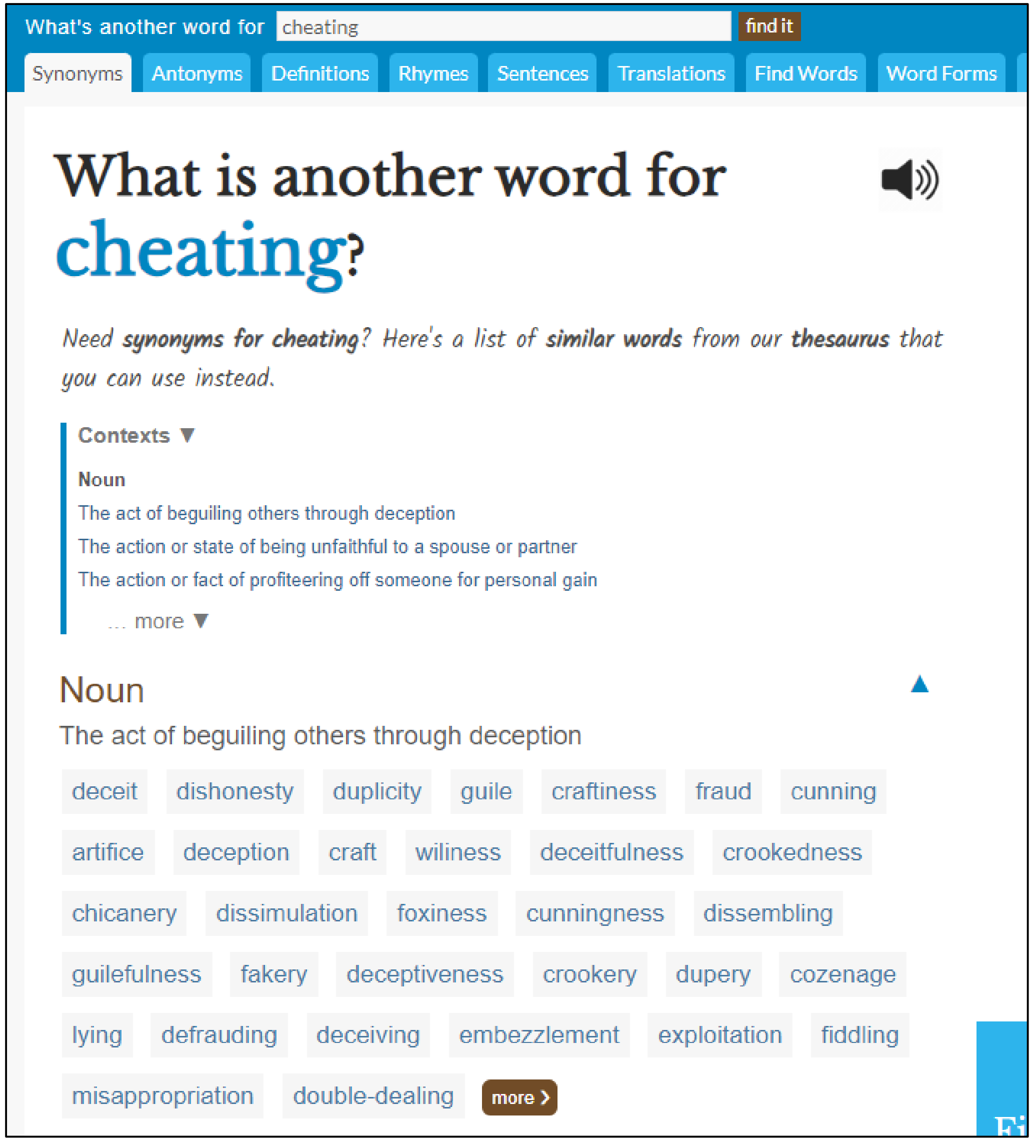

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Noun

The act of beguiling others through deception

The action or state of being unfaithful to a spouse or partner

The action or fact of profiteering off someone for personal gain

… more ▼

Noun

The act of beguiling others through deception

deceit, dishonesty, duplicity, guile, craftiness, fraud, cunning, artifice, deception, craft, wiliness, deceitfulness, crookedness, chicanery, dissimulation, foxiness, cunningness, dissembling, guilefulness, fakery, deceptiveness, crookery, dupery, cozenage, lying, defrauding, deceiving, embezzlement, exploitation, fiddling, misappropriation, double-dealing

Is ChatGPT AI-driven software a threat to academic integrity in higher education?

1. ChatGPT / AI-driven software
2. academic integrity
3. higher education

1. ChatGPT or AI-driven or “AI driven” or chatbot* or “machine generated” or “artificial intelligence”

2. “academic integrity” or cheat* or plagiarism or authenticity

3. “higher education” or college* or university*

fake news, fake citations, writing, Turnitin, threat, risk*, problem*, danger…

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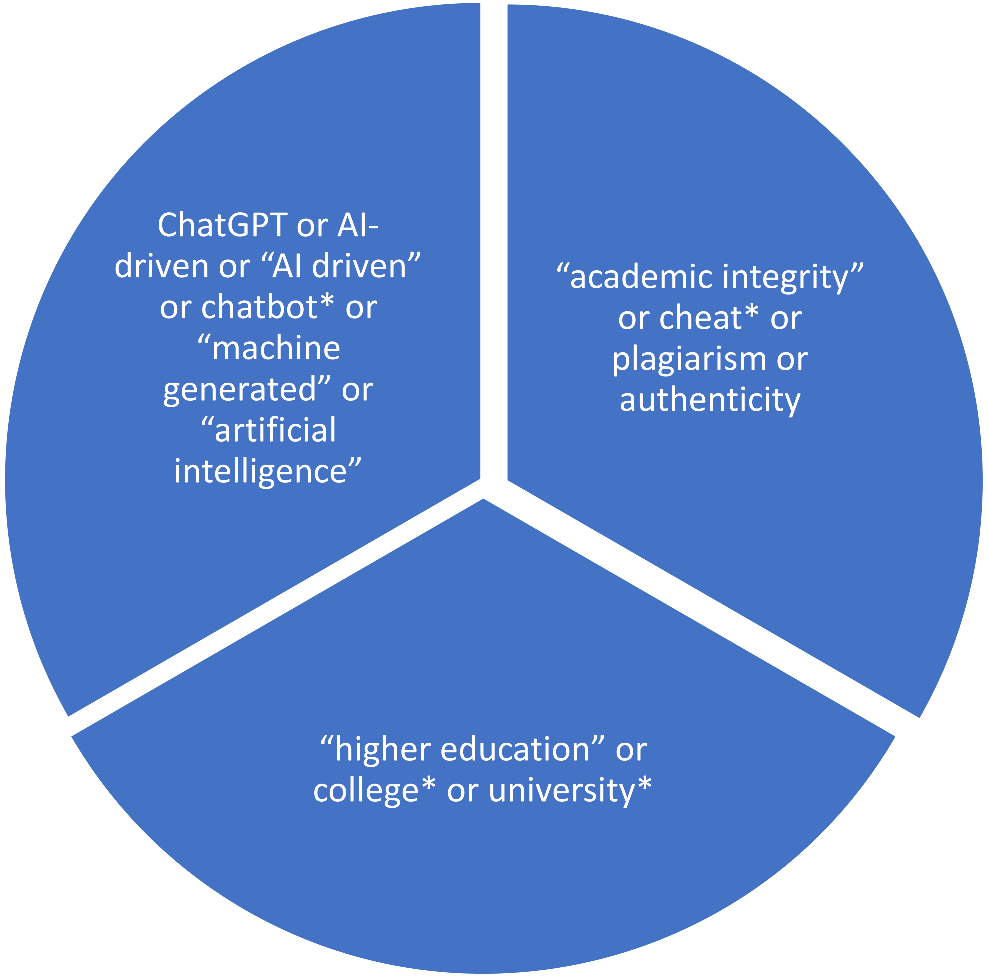

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“higher education” or college* or university*

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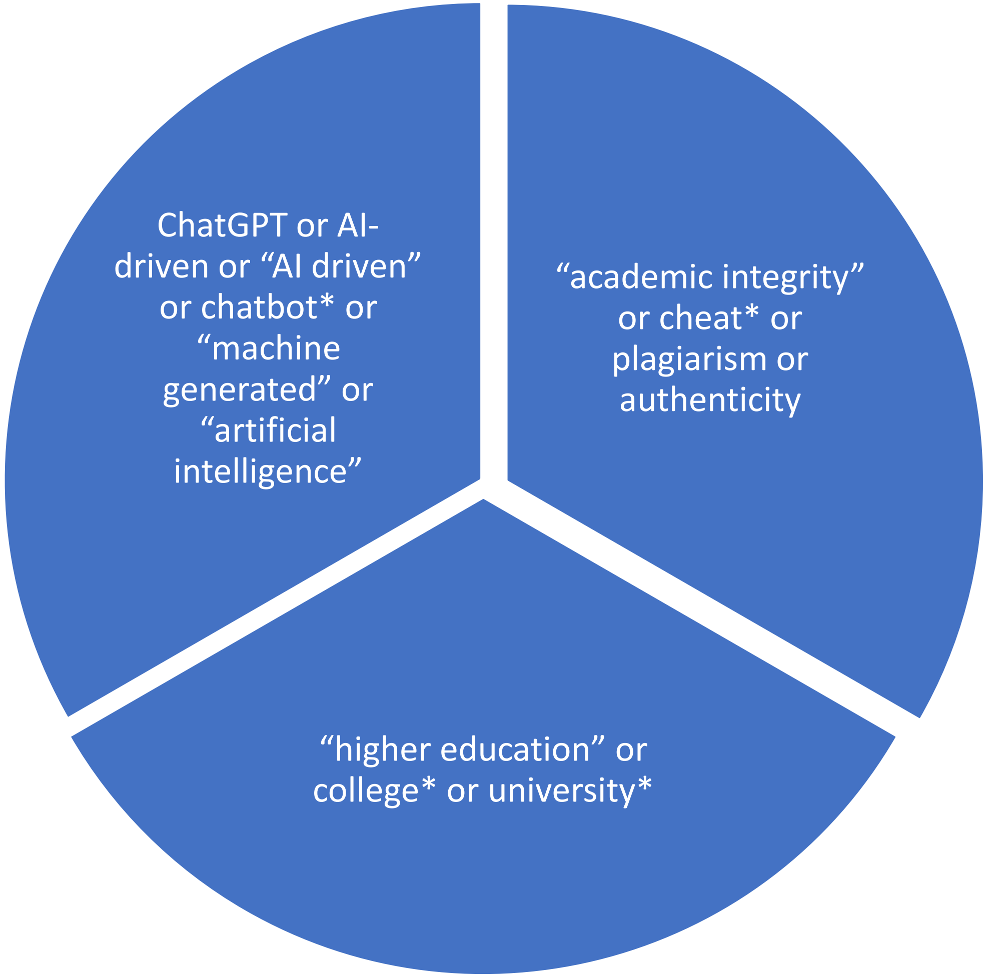

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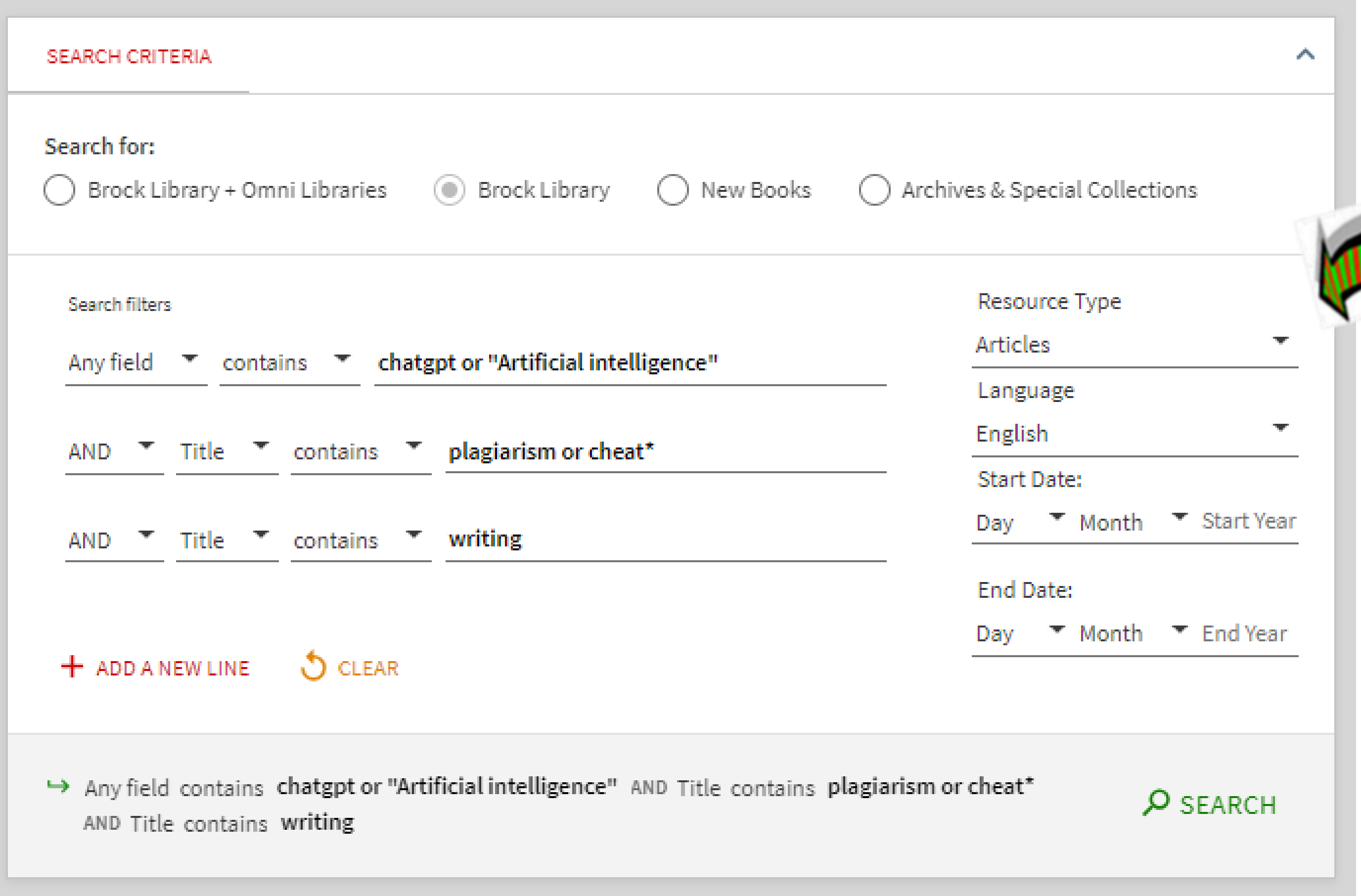

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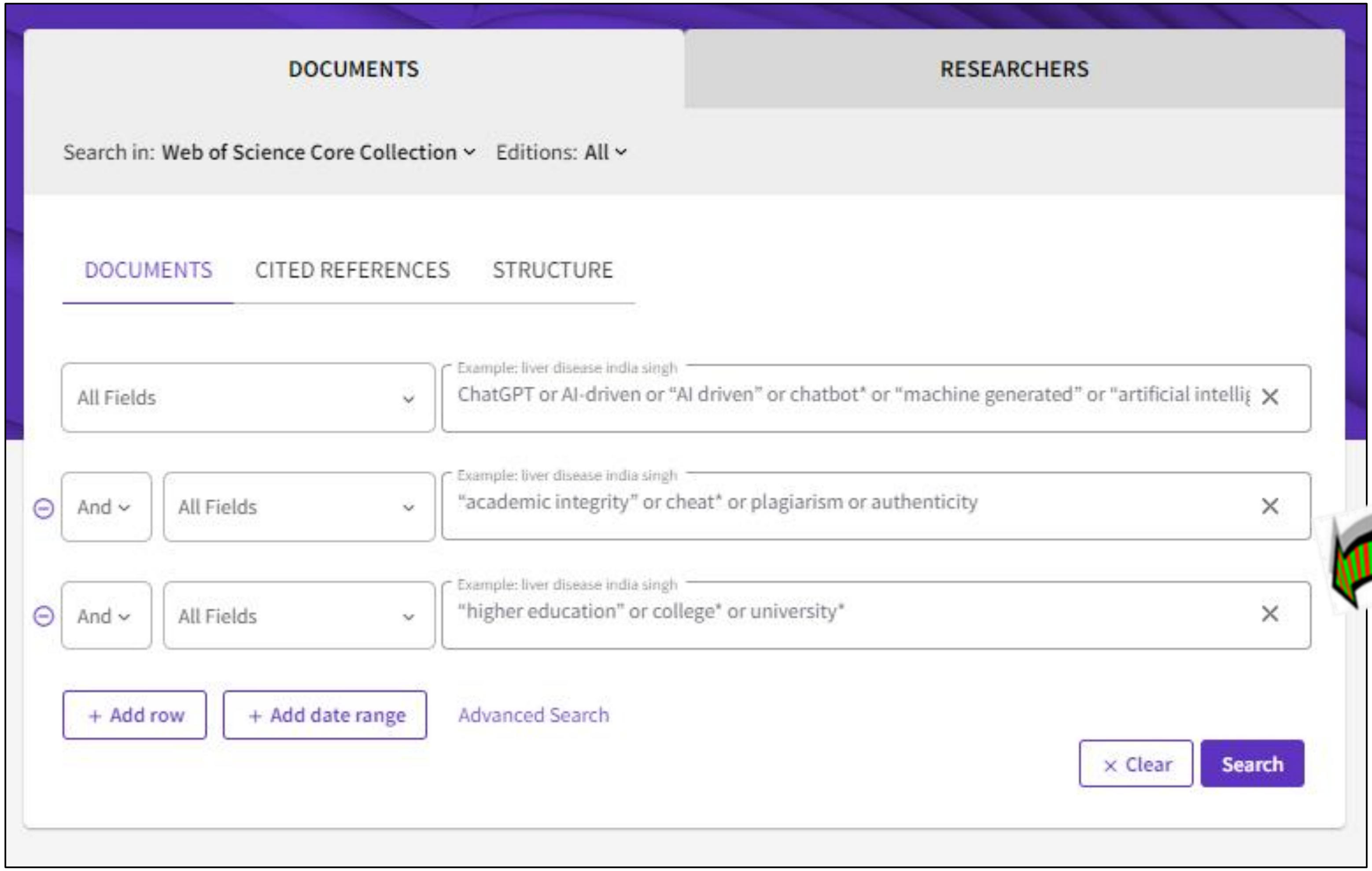

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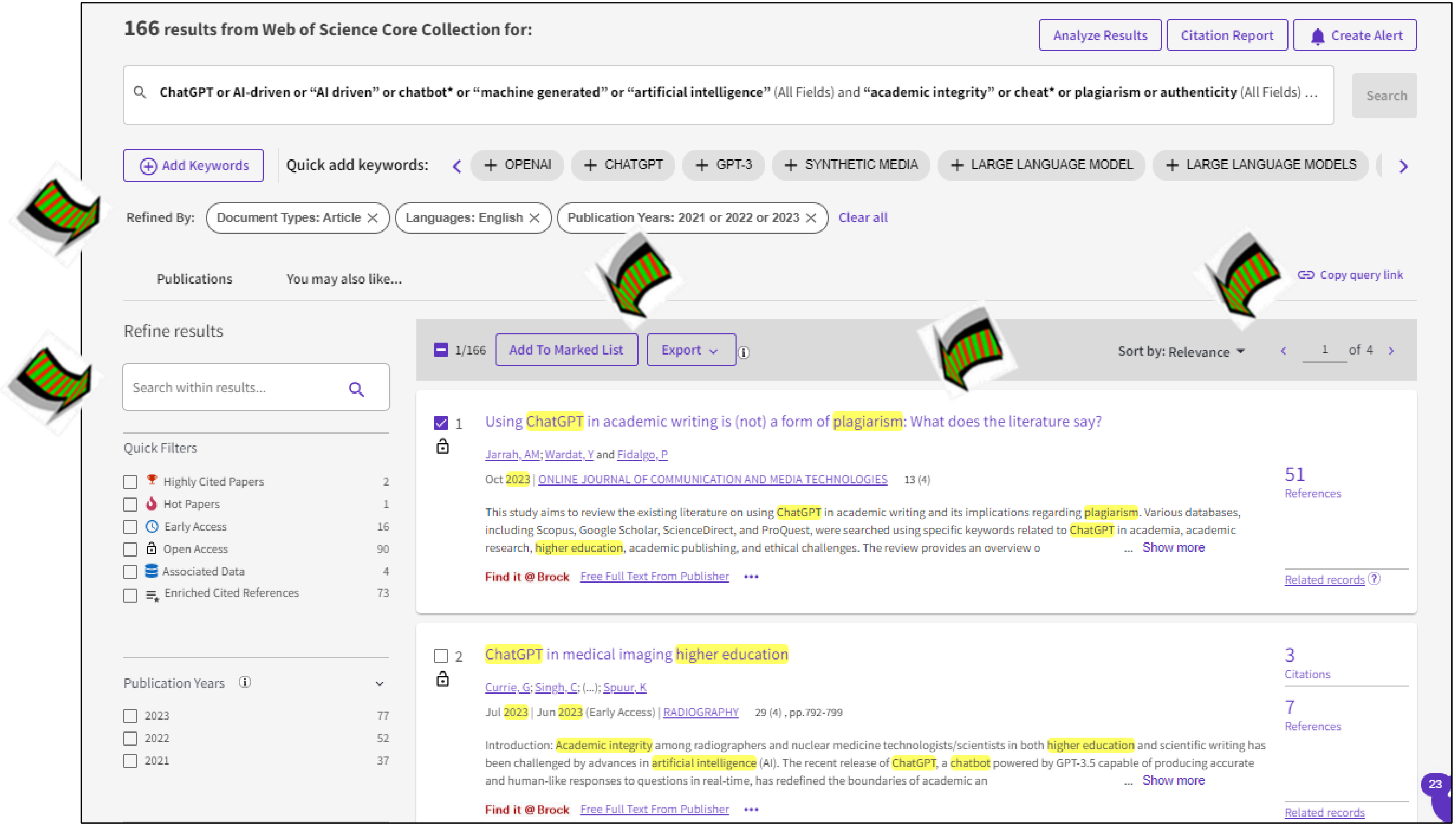

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☑ 1 Using ChatGPT in academic writing is (not) a form of plagiarism: What does the literature say?

Jarrah, AM; Wardat, Y and Fidalgo, P

Oct 2023 | ONLINE JOURNAL OF COMMUNICATION AND MEDIA TECHNOLOGIES 13 (4)

This study aims to review the existing literature on using ChatGPT in academic writing and its implications regarding plagiarism. Various databases, including Scopus, Google Scholar, ScienceDirect, and ProQuest, were searched using specific keywords related to ChatGPT in academia, academic research, higher education, academic publishing, and ethical challenges. The review provides an overview o ... Show more

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Introduction: Academic integrity among radiographers and nuclear medicine technologists/scientists in both higher education and scientific writing has been challenged by advances in artificial intelligence (AI). The recent release of ChatGPT, a chatbot powered by GPT-3.5 capable of producing accurate and human-like responses to questions in real-time, has redefined the boundaries of academic an ... Show more

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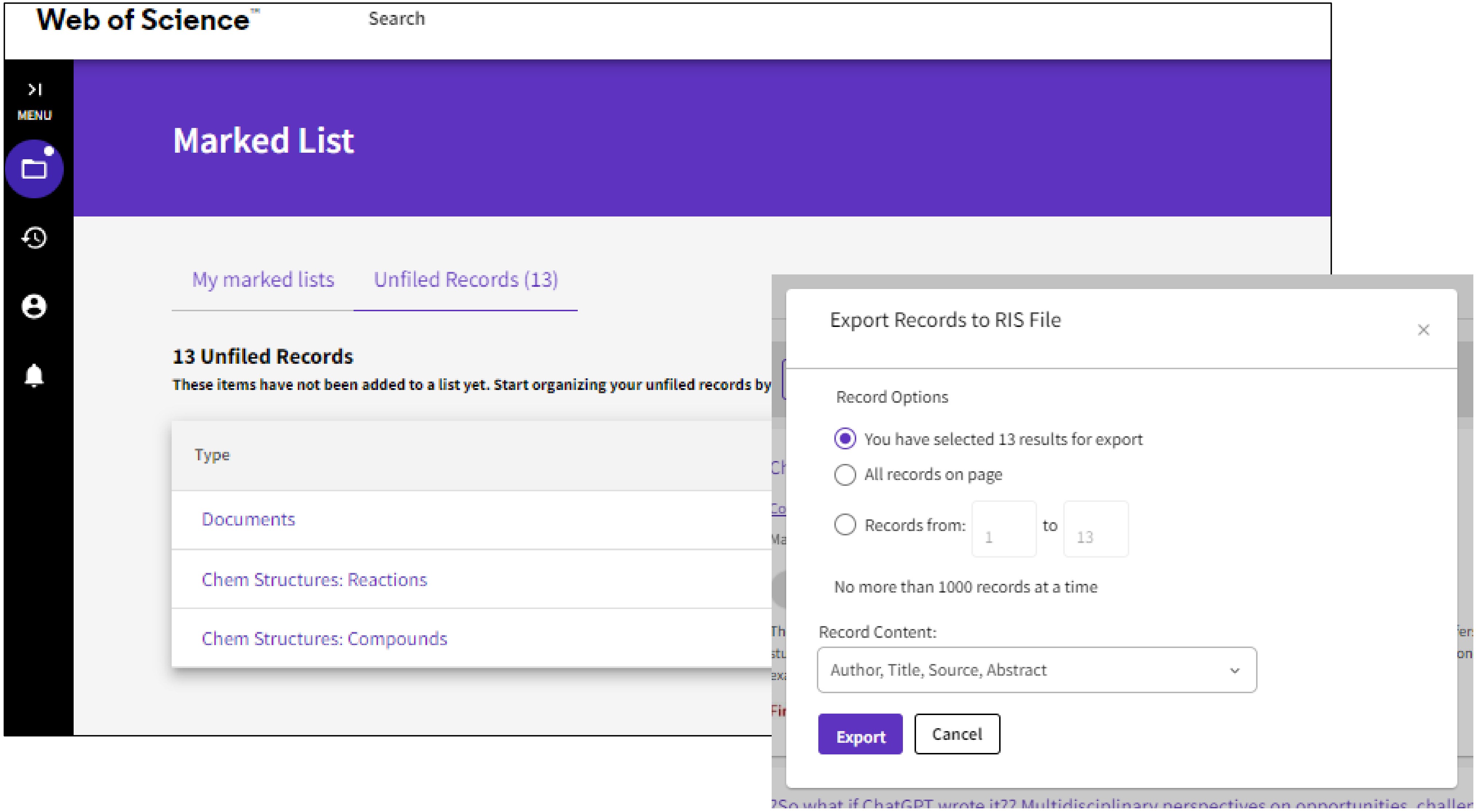

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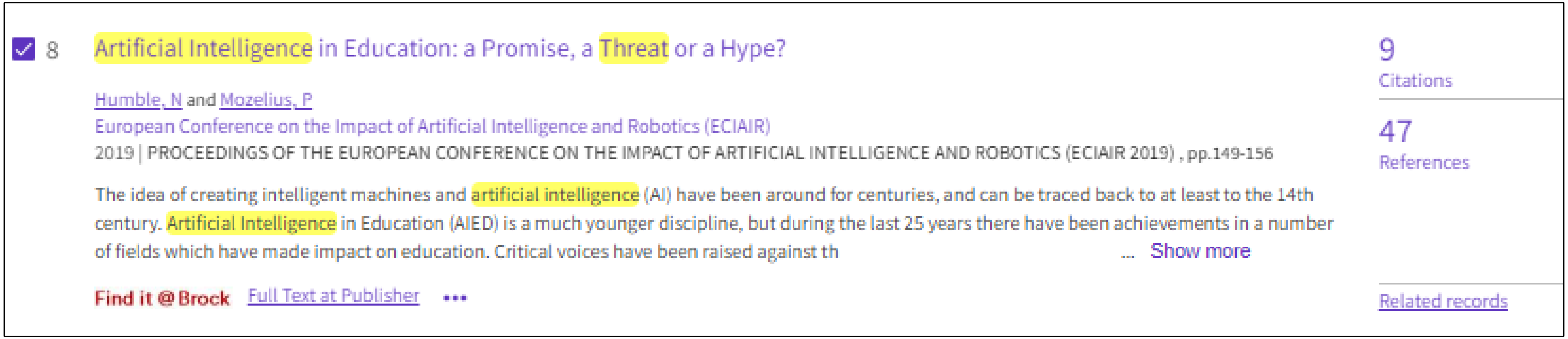

☑ 8 Artificial Intelligence in Education: a Promise, a Threat or a Hype?

Humble, N and Mozelius, P

European Conference on the Impact of Artificial Intelligence and Robotics (ECIAIR)

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The idea of creating intelligent machines and artificial intelligence (AI) have been around for centuries, and can be traced back to at least to the 14th century. Artificial Intelligence in Education (AIED) is a much younger discipline, but during the last 25 years there have been achievements in a number of fields which have made impact on education. Critical voices have been raised against th ...

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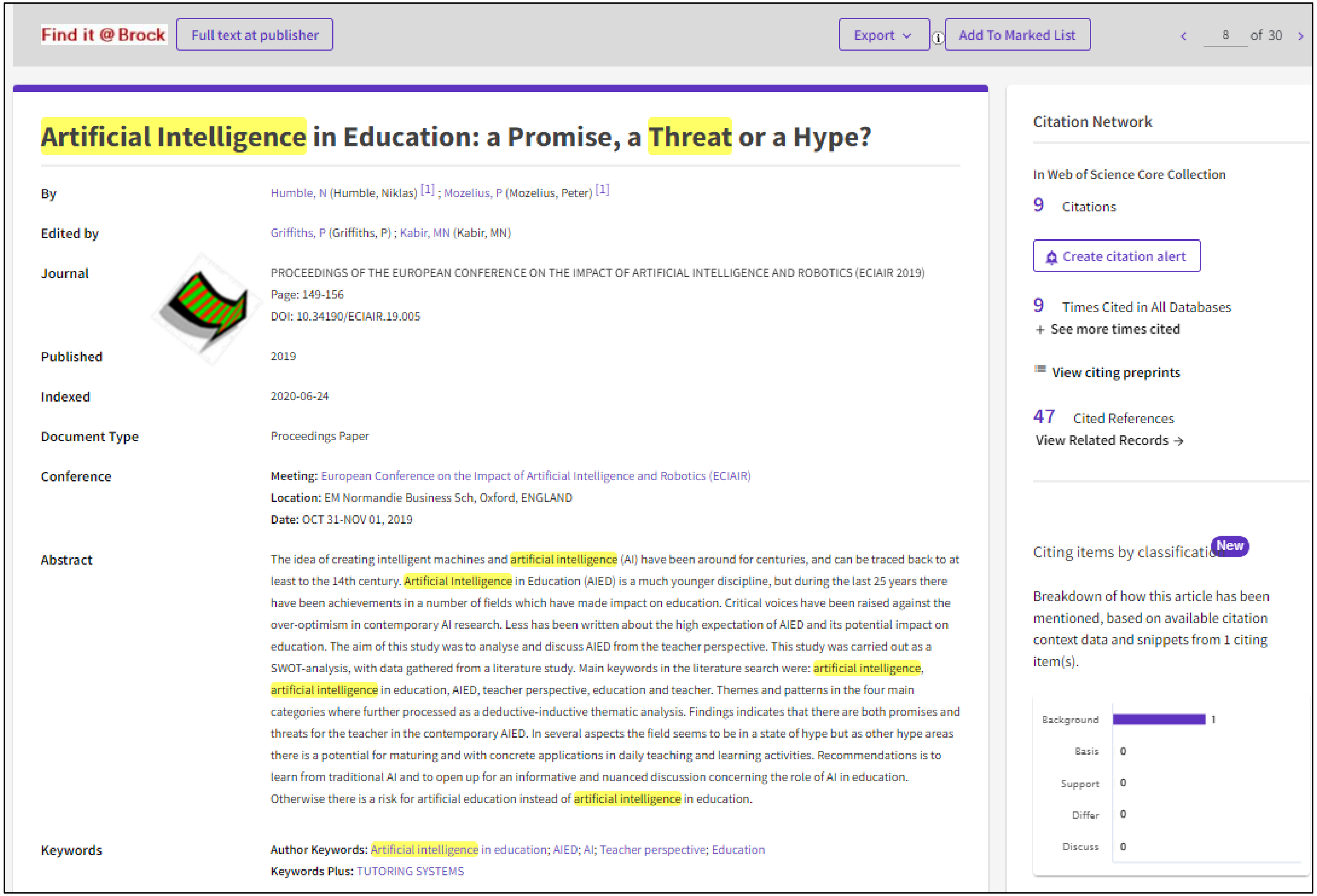

Artificial Intelligence in Education: a Promise, a Threat or a Hype?

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Abstract

The idea of creating intelligent machines and artificial intelligence (AI) have been around for centuries, and can be traced back to at least to the 14th century. Artificial Intelligence in Education (AIED) is a much younger discipline, but during the last 25 years there have been achievements in a number of fields which have made impact on education. Critical voices have been raised against the over-optimism in contemporary AI research. Less has been written about the high expectation of AIED and its potential impact on education. The aim of this study was to analyse and discuss AIED from the teacher perspective. This study was carried out as a SWOT-analysis, with data gathered from a literature study. Main keywords in the literature search were: artificial intelligence, artificial intelligence in education, AIED, teacher perspective, education and teacher. Themes and patterns in the four main categories where further processed as a deductive-inductive thematic analysis. Findings indicates that there are both promises and threats for the teacher in the contemporary AIED. In several aspects the field seems to be in a state of hype but as other hype areas there is a potential for maturing and with concrete applications in daily teaching and learning activities. Recommendations is to learn from traditional AI and to open up for an informative and nuanced discussion concerning the role of AI in education. Otherwise there is a risk for artificial education instead of artificial intelligence in education.

Keywords
Author Keywords: Artificial intelligence in education; AIED; AI; Teacher perspective; Education
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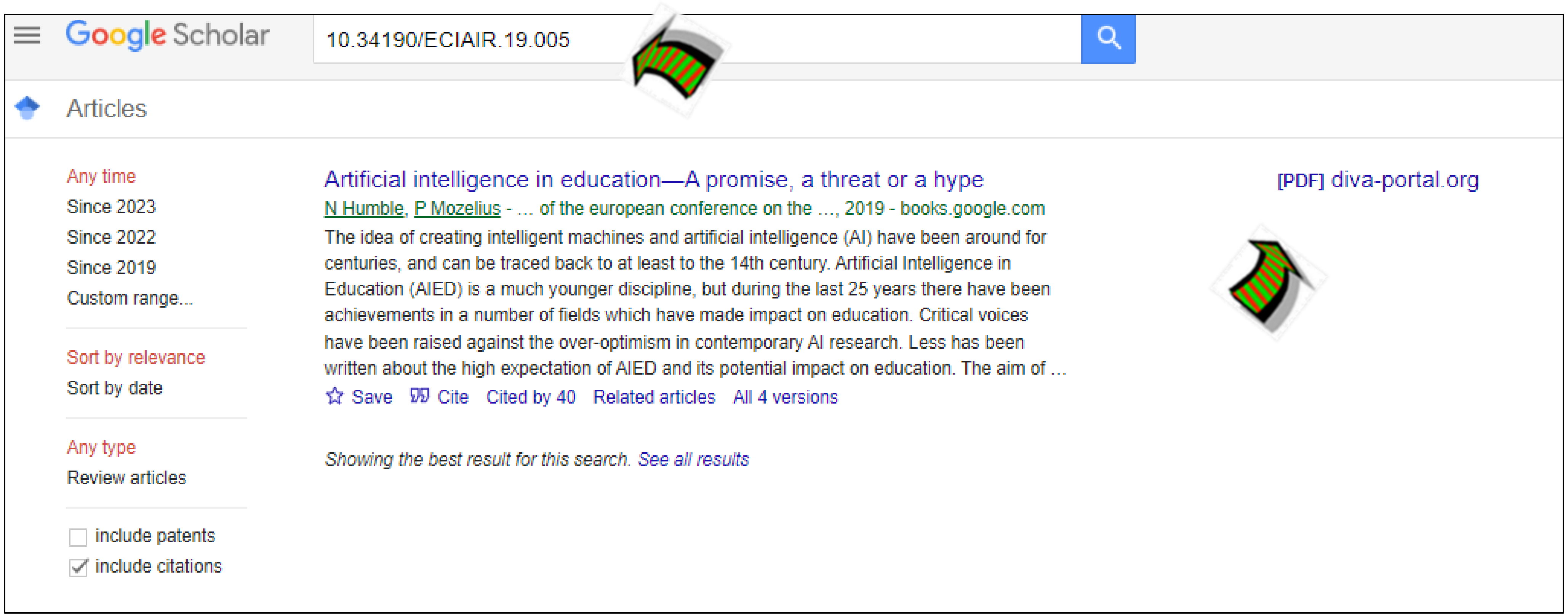

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DOI: 10.34190/ECIAIR.19.005

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Keywords: Artificial intelligence in education, AIED, AI, Teacher perspective, Education

1. Introduction

The idea of creating artificial intelligence (AI) has been around for a long time, and in the 14th century Ramon Llull outlined his idea of implementing reasoning and thought processes in an intelligent machine in his Ars Magna. Ideas that later inspired scientists such as Giordano Bruno, Athanasius Kirchner, Agrippa of Nettesheim and Gottfried Wilhelm Leibniz. (Jensen 2017) Centuries later a more modern calculation model for intelligent reasoning was formalised by Alan Turing (1937), and his machine model has been the foundation of computer science and the idea of computers as intelligent problem solvers.

Turing (1950) extended his ideas in *Computing Machinery and Intelligence*, which is seen as the bedrock of AI (Castelfranchi 2013), even if the term was not coined until 1956, around two years after Turing's death (McCarthy et al 2006). Attempts to formalise intelligent reasoning and to further develop AI has been an ongoing process since Turing built the first prototype for computer chess engines in the 1950s. As suggested by Claude Shannon, computer chess is an interesting testbed for computer science and AI (Keene, Jacobs & Buzan 1996). An increasing percentage of successful computer programs have challenged chess grandmasters, but still without reaching a lobster's level of social skills and handling real world problems. A comparison made by John Searle (1990), who also has coined the terms strong AI and weak AI.

Recently the terms strong and weak AI have been renamed as narrow AI and artificial general intelligence (AGI). The term AGI was popularised by the AI-researchers Shane Legg, Mark Gabrud and Ben Goertzel with the term defined as general artificial intelligence on the level of human intelligence. (Tegmark 2017) Strong AI or AGI can also be illustrated by the Turing test, where true and general AI is accomplished when there no longer is possible to tell the difference between a natural language conversation between a human being and an AI system (Turing 1950).

Weak or narrow AI, can be exemplified by more specialised AI applications such as digital devices communicating via Bluetooth, or when the chess engine Deep Fritz beat GM Vladimir Kramnik (Hoffman 2002).

A recent example of narrow AI on superhuman level was when the machine learning based AlphaGo defeated the Korean Go grandmaster Lee Sedol (Zhang 2016). Machine learning is the AI field that has made a fast progress during the last decade, but as pointed out by Lee and Shin (2017), all developed AI systems so far must be classified as weak or narrow AI. Finally, the answer to the question if AI systems can replace human doctors in the treatment of patients is still NO. There are today no computational algorithms or heuristics to understand human emotions at a deeper level. (Zhang 2016)

Humble and Mozelius (2019) commented that "….Intelligent tutoring systems often involve less artificial intelligence than expected…" (p. 153).

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Humble, N., & Mozelius, P. (2019). Artificial intelligence in education: A promise, a threat or a hype? In *Proceedings of the european conference on the impact of artificial intelligence and robotics* (ECIAIR 2019). Oxford. (pp. 149-156).
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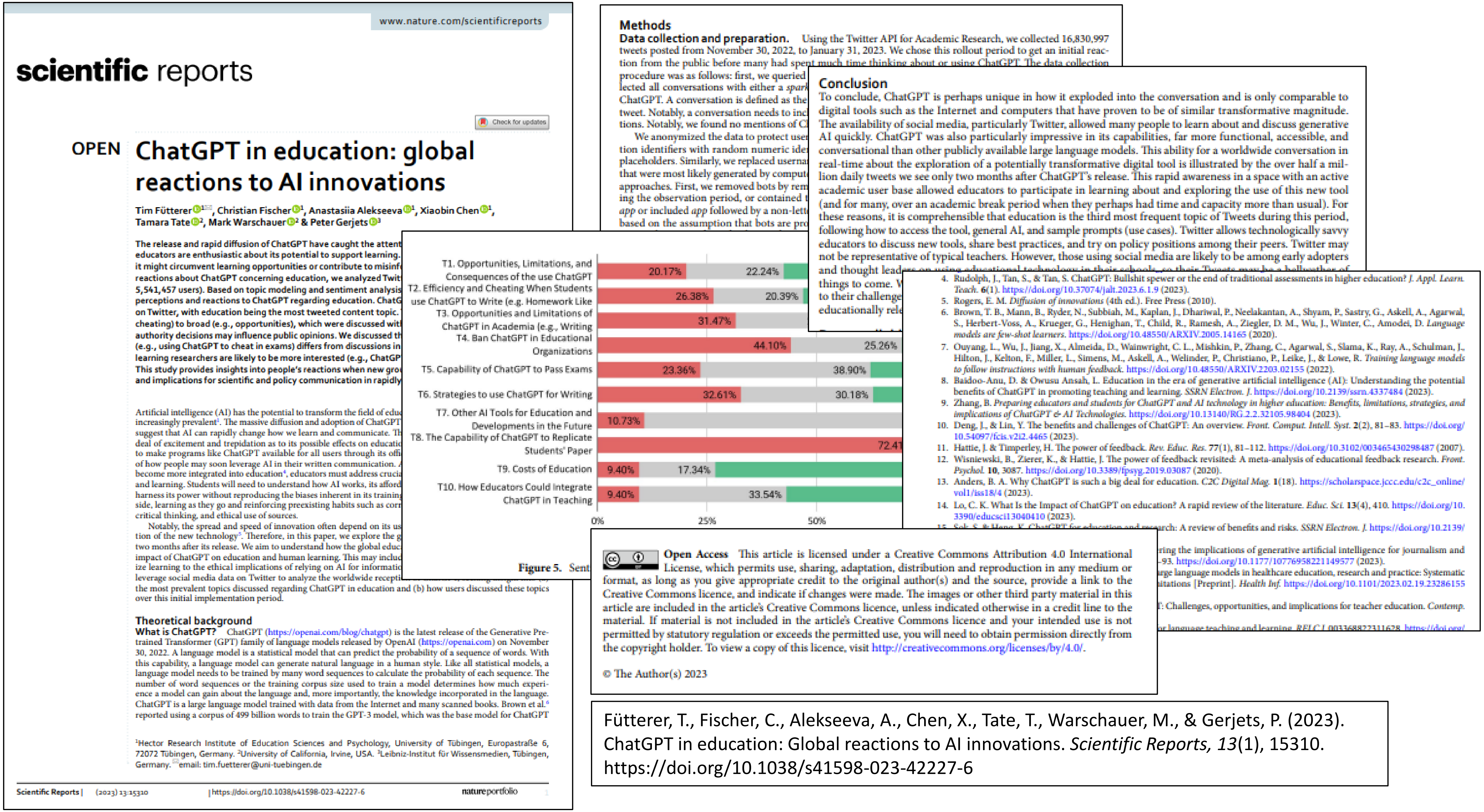

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ChatGPT in education: global reactions to AI innovations

Tim Fütterer[1], Christian Fischer[1], Anastasiia Alekseeva[1], Xiaobin Chen[1], Tamara Tate[2], Mark Warschauer[2] & Peter Gerjets[3]

The release and rapid diffusion of ChatGPT have caught the attent
educators are enthusiastic about its potential to support learning.
it might circumvent learning opportunities or contribute to misinf
reactions about ChatGPT concerning education, we analyzed Twit
5,541,457 users). Based on topic modeling and sentiment analysis
perceptions and reactions to ChatGPT regarding education. ChatG
on Twitter, with education being the most tweeted content topic.
cheating) to broad (e.g., opportunities), which were discussed wit
authority decisions may influence public opinions. We discussed th
(e.g., using ChatGPT to cheat in exams) differs from discussions in
learning researchers are likely to be more interested (e.g., ChatGP
This study provides insights into people's reactions when new gro
and implications for scientific and policy communication in rapidly

Artificial intelligence (AI) has the potential to transform the field of edu
increasingly prevalent[1]. The massive diffusion and adoption of ChatGPT
suggest that AI can rapidly change how we learn and communicate. Th
deal of excitement and trepidation as to its possible effects on educatio
to make programs like ChatGPT available for all users through its offi
of how people may soon leverage AI in their written communication. A
become more integrated into education[4], educators must address crucia
and learning. Students will need to understand how AI works, its afford
harness its power without reproducing the biases inherent in its training
side, learning as they go and reinforcing preexisting habits such as corr
critical thinking, and ethical use of sources.

Notably, the spread and speed of innovation often depend on its us
tion of the new technology[5]. Therefore, in this paper, we explore the g
two months after its release. We aim to understand how the global educ
impact of ChatGPT on education and human learning. This may includ
ize learning to the ethical implications of relying on AI for informatio
leverage social media data on Twitter to analyze the worldwide recepti
the most prevalent topics discussed regarding ChatGPT in education and (b) how users discussed these topics over this initial implementation period.

Theoretical background

What is ChatGPT? ChatGPT (https://openai.com/blog/chatgpt) is the latest release of the Generative Pre-trained Transformer (GPT) family of language models released by OpenAI (https://openai.com) on November 30, 2022. A language model is a statistical model that can predict the probability of a sequence of words. With this capability, a language model can generate natural language in a human style. Like all statistical models, a language model needs to be trained by many word sequences to calculate the probability of each sequence. The number of word sequences or the training corpus size used to train a model determines how much experience a model can gain about the language and, more importantly, the knowledge incorporated in the language. ChatGPT is a large language model trained with data from the Internet and many scanned books. Brown et al.[6] reported using a corpus of 499 billion words to train the GPT-3 model, which was the base model for ChatGPT

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Methods

Data collection and preparation. Using the Twitter API for Academic Research, we collected 16,830,997 tweets posted from November 30, 2022, to January 31, 2023. We chose this rollout period to get an initial reaction from the public before many had spent much time thinking about or using ChatGPT. The data collection
procedure was as follows: first, we queried
lected all conversations with either a *spark*
ChatGPT. A conversation is defined as the
tweet. Notably, a conversation needs to inc
tions. Notably, we found no mentions of C

We anonymized the data to protect user
tion identifiers with random numeric ide
placeholders. Similarly, we replaced userna
that were most likely generated by comput
approaches. First, we removed bots by rem
ing the observation period, or contained t
app or included *app* followed by a non-lett
based on the assumption that bots are pro

Conclusion

To conclude, ChatGPT is perhaps unique in how it exploded into the conversation and is only comparable to digital tools such as the Internet and computers that have proven to be of similar transformative magnitude. The availability of social media, particularly Twitter, allowed many people to learn about and discuss generative AI quickly. ChatGPT was also particularly impressive in its capabilities, far more functional, accessible, and conversational than other publicly available large language models. This ability for a worldwide conversation in real-time about the exploration of a potentially transformative digital tool is illustrated by the over half a million daily tweets we see only two months after ChatGPT's release. This rapid awareness in a space with an active academic user base allowed educators to participate in learning about and exploring the use of this new tool (and for many, over an academic break period when they perhaps had time and capacity more than usual). For these reasons, it is comprehensible that education is the third most frequent topic of Tweets during this period, following how to access the tool, general AI, and sample prompts (use cases). Twitter allows technologically savvy educators to discuss new tools, share best practices, and try on policy positions among their peers. Twitter may not be representative of typical teachers. However, those using social media are likely to be among early adopters and thought lead
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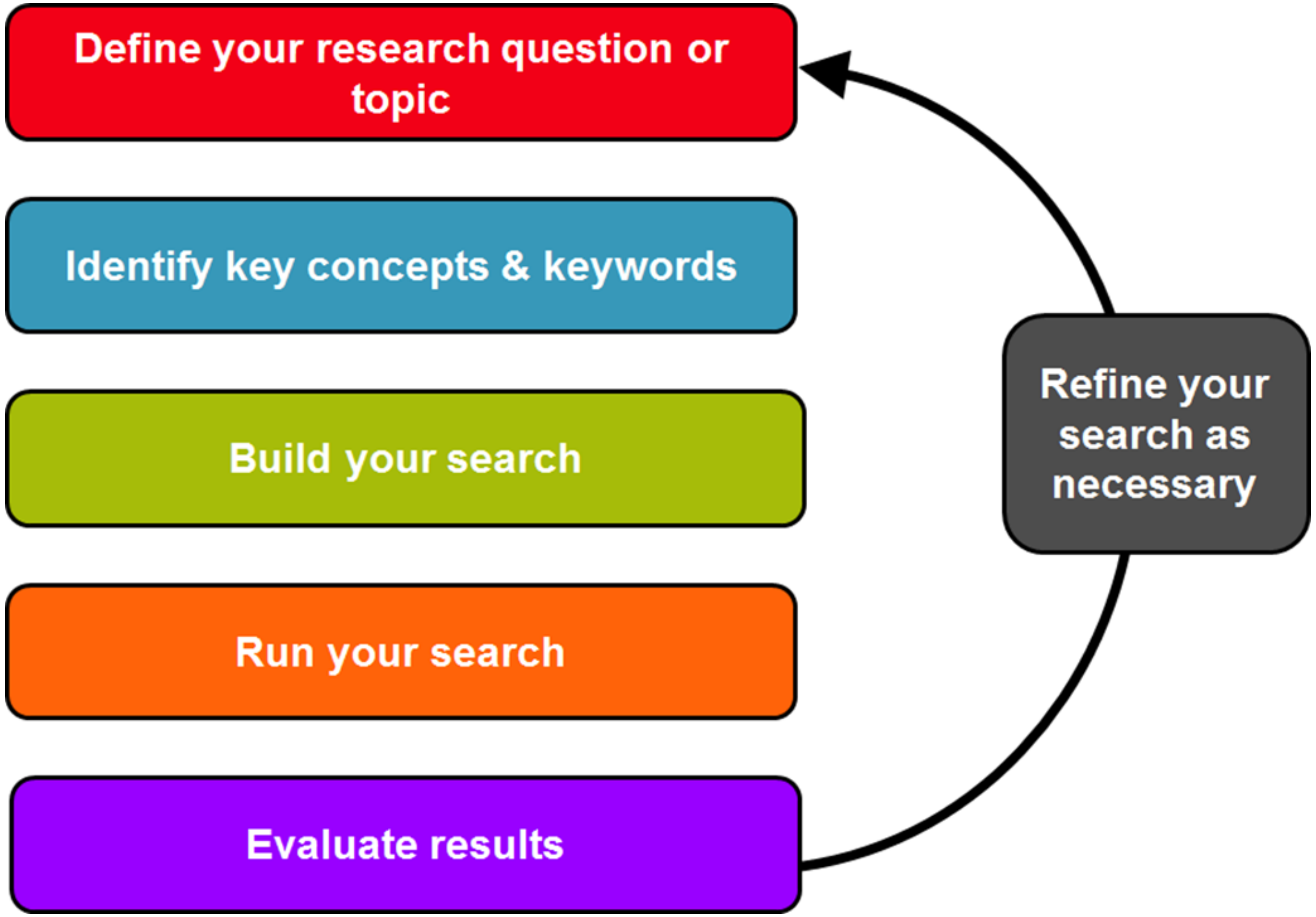

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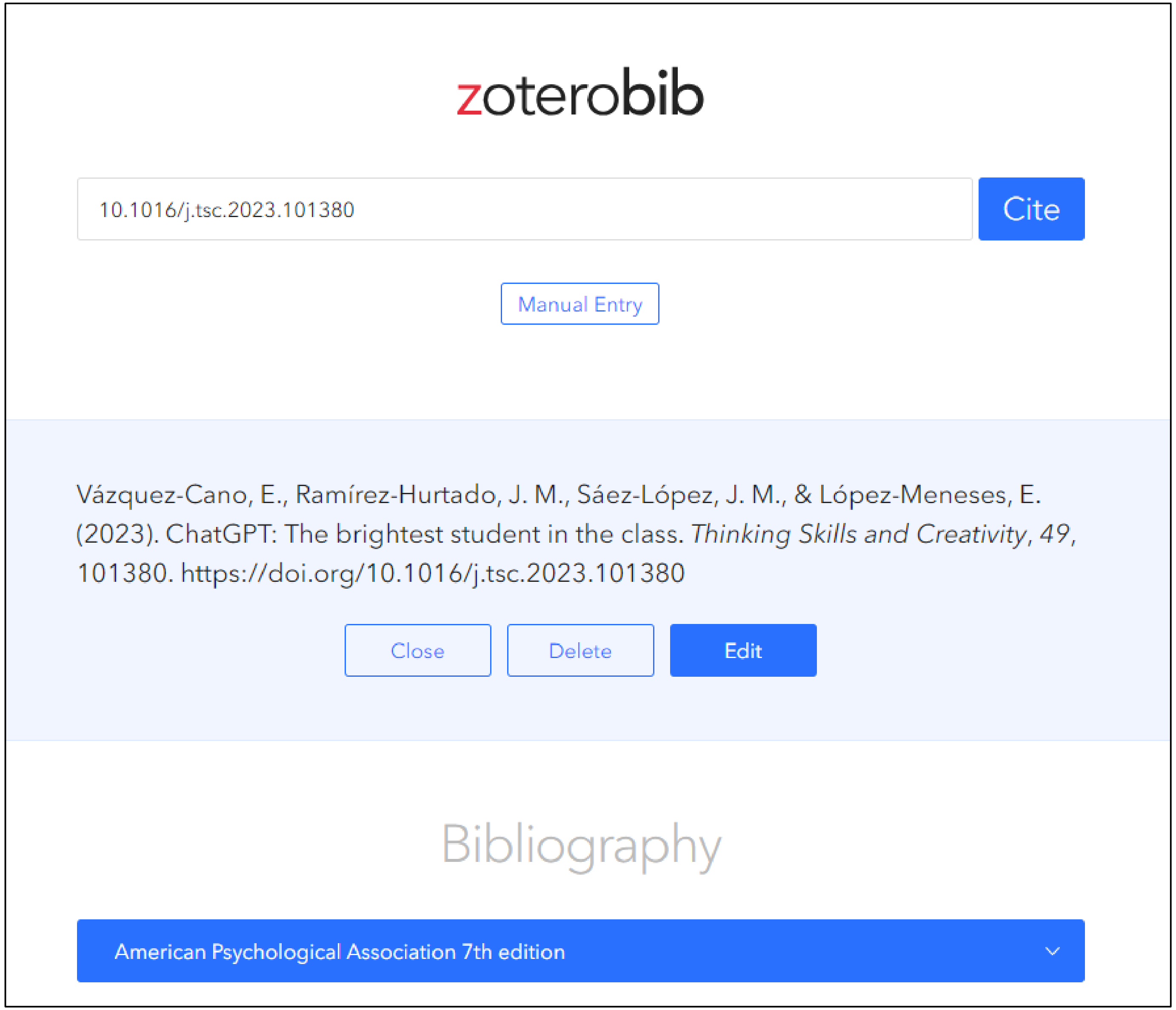

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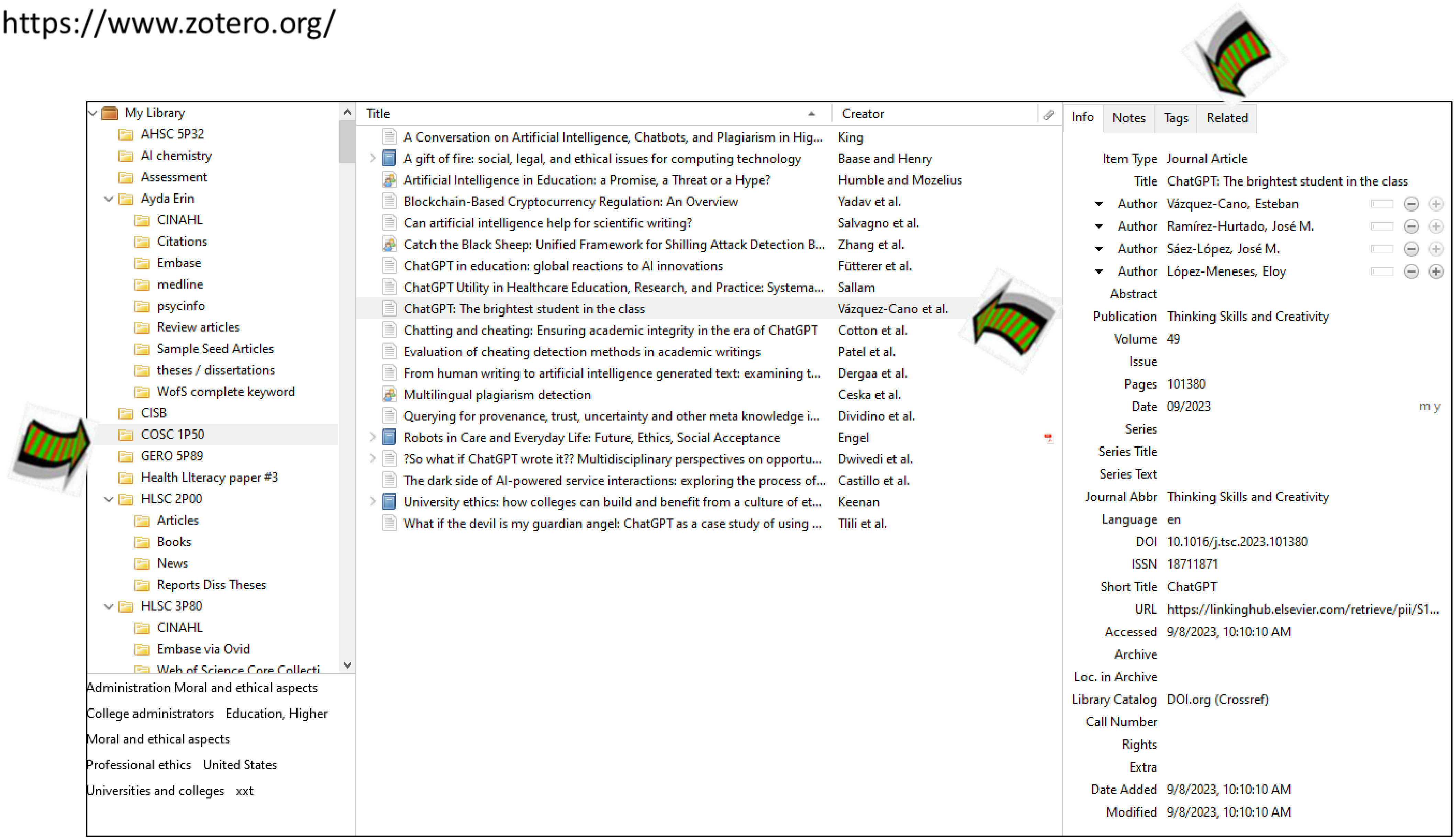

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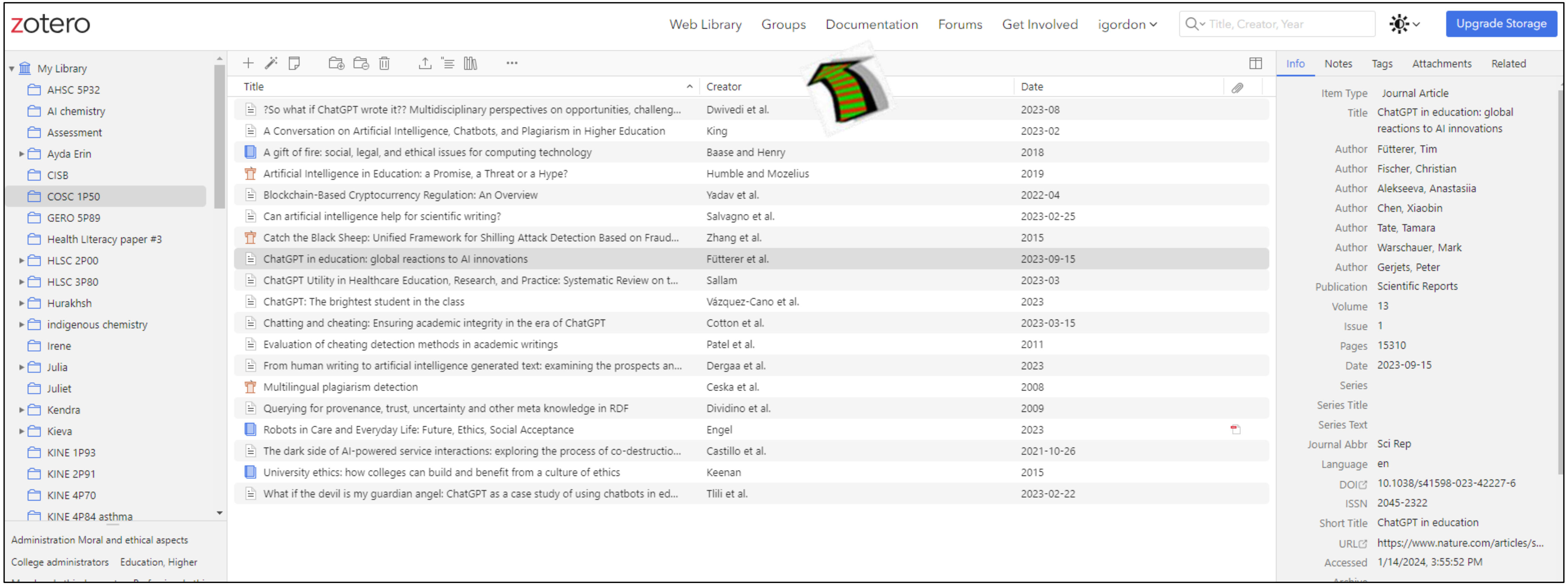

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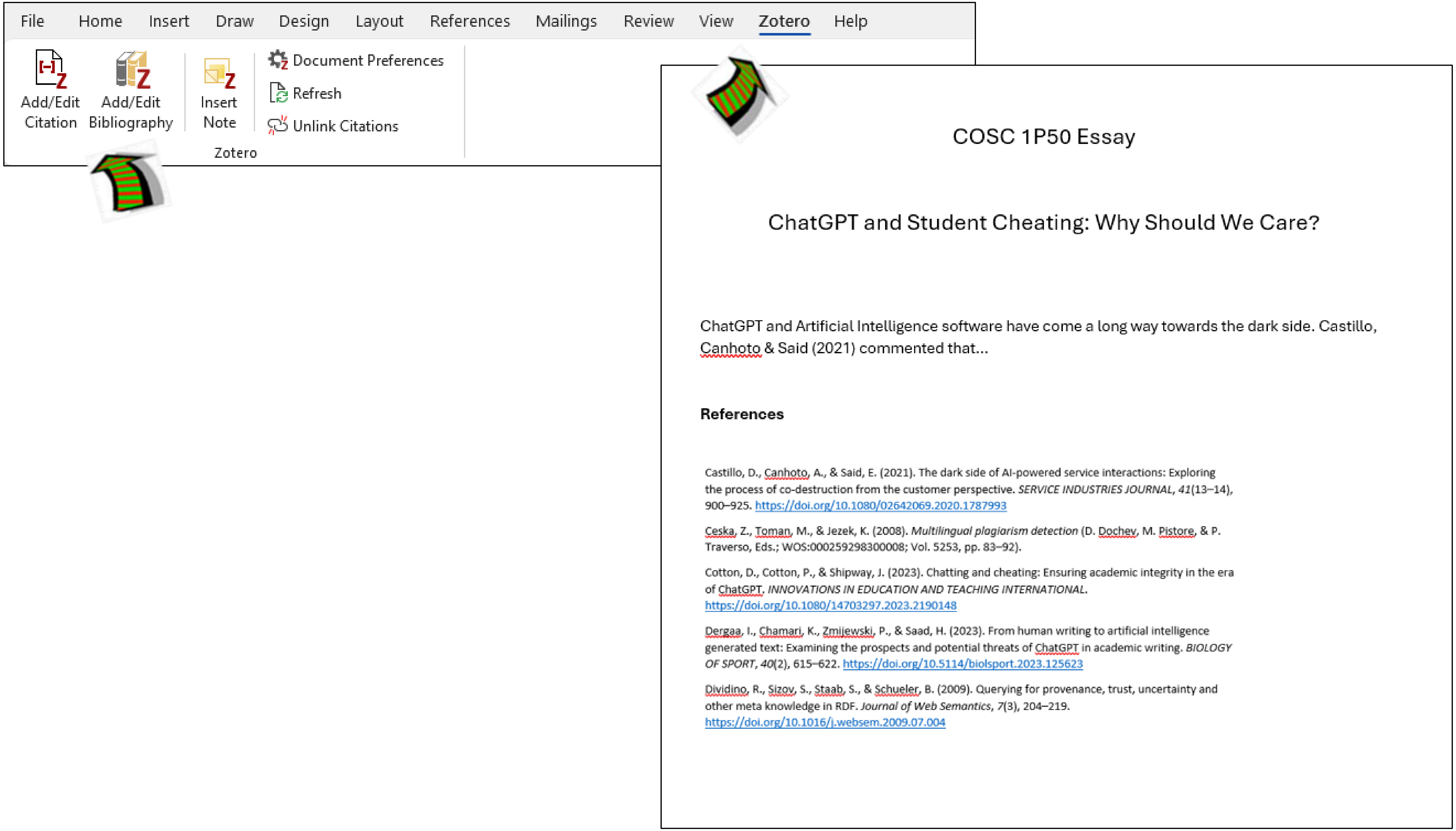

COSC 1P50 Essay

ChatGPT and Student Cheating: Why Should We Care?

ChatGPT and Artificial Intelligence software have come a long way towards the dark side. Castillo, Canhoto & Said (2021) commented that...

References

Castillo, D., Canhoto, A., & Said, E. (2021). The dark side of AI-powered service interactions: Exploring the process of co-destruction from the customer perspective. *SERVICE INDUSTRIES JOURNAL*, *41*(13–14), 900–925. https://doi.org/10.1080/02642069.2020.1787993

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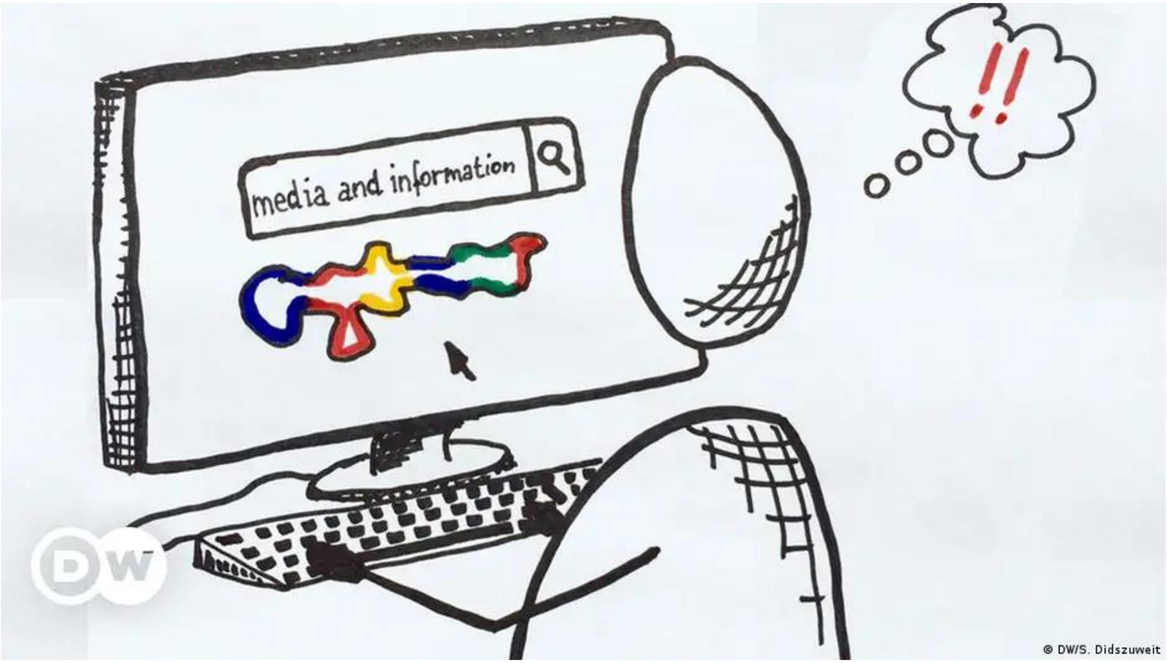
Library Seminar Agenda

- COSC Library Research Guide
- Databases – lots of them!
- Citation management
- What does it mean to be information literate
- Where, how and when to get help

Information literate

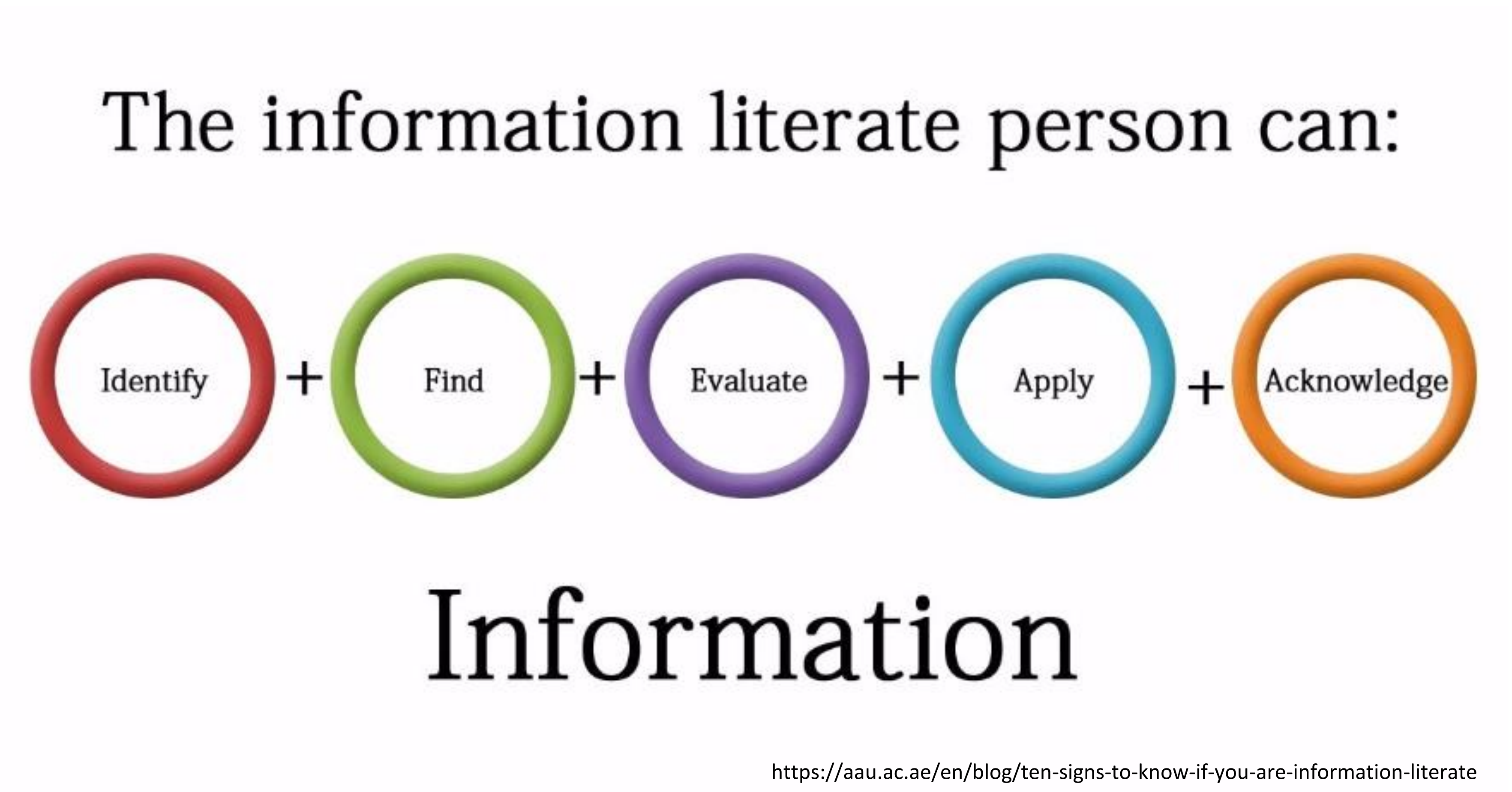
- Involves critical thinking, choice and effectively use of information
- Is a developed skill essential for research and learning
- Expected for scholarship



https://akademie.dw.com/en/media-and-information-literacy/

An information-literate individual is able to 'evaluate information and its sources critically, incorporate selected information into one's knowledge base, and use information effectively to accomplish a specific purpose’.

https://www.ala.org/acrl/standards/ilframework



The information literate person can:

https://aau.ac.ae/en/blog/ten-signs-to-know-if-you-are-information-literate

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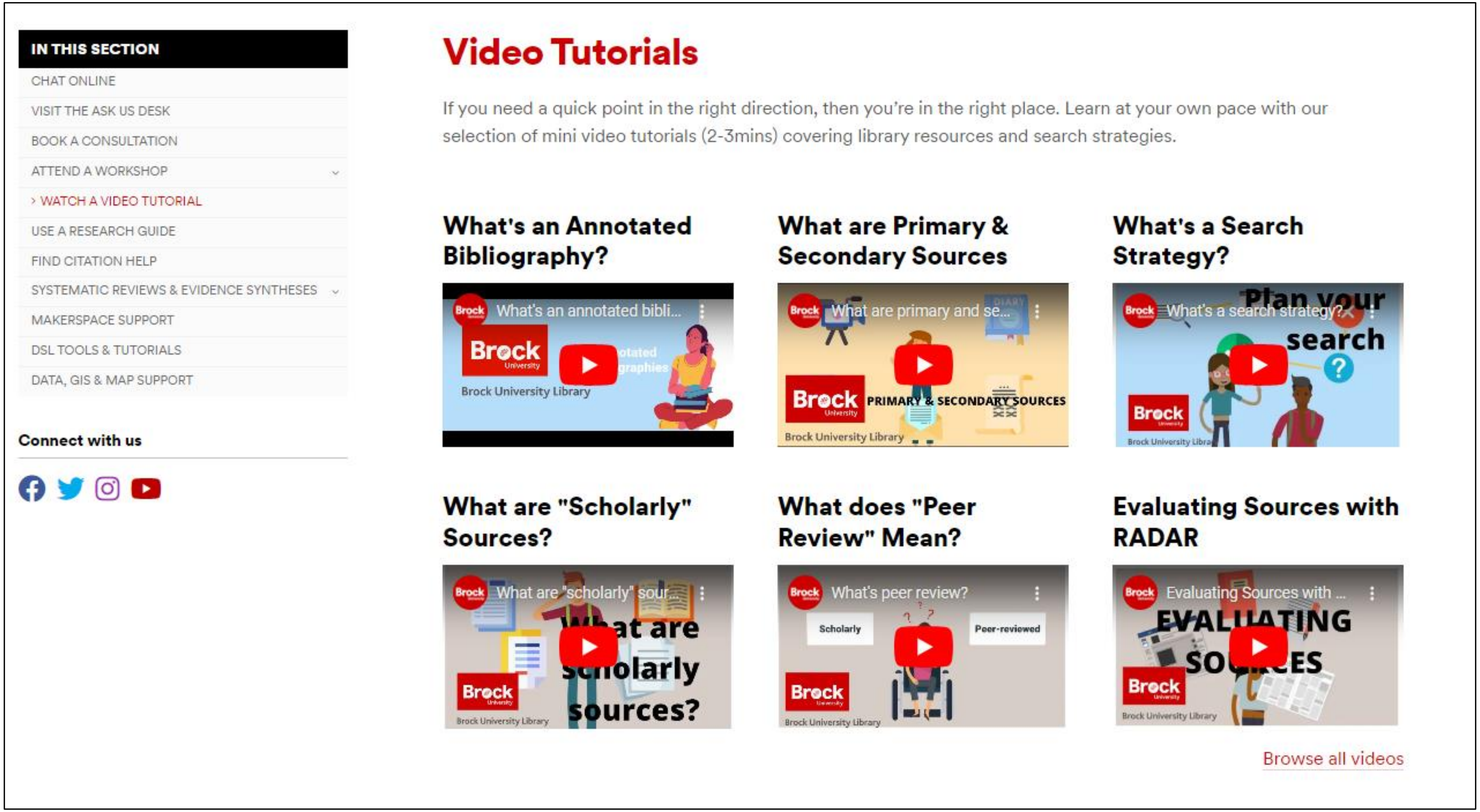
https://brocku.ca/library/video-tutorials/



Video Tutorials

If you need a quick point in the right direction, then you're in the right place. Learn at your own pace with our selection of mini video tutorials (2-3mins) covering library resources and search strategies.

What's an Annotated Bibliography?

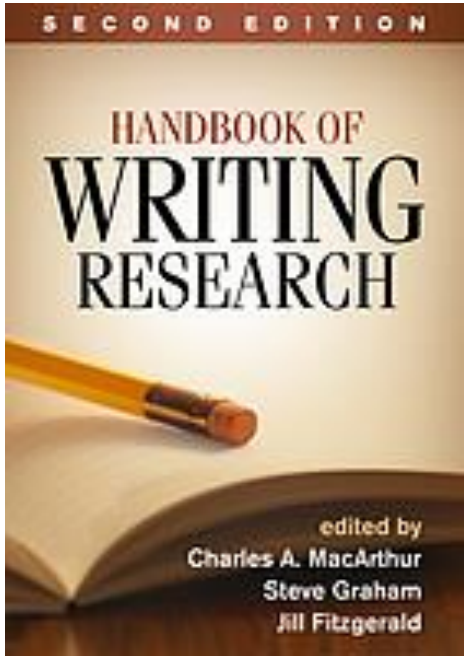
What are Primary & Secondary Sources

What's a Search Strategy?

What are "Scholarly" Sources?

What does "Peer Review" Mean?

Evaluating Sources with RADAR



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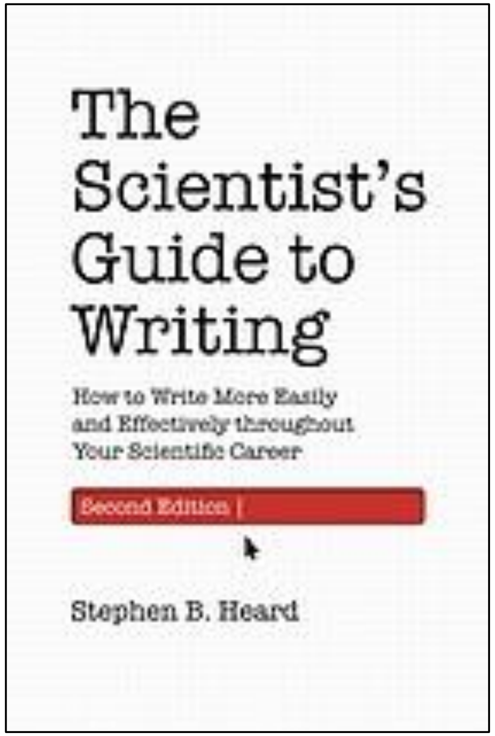

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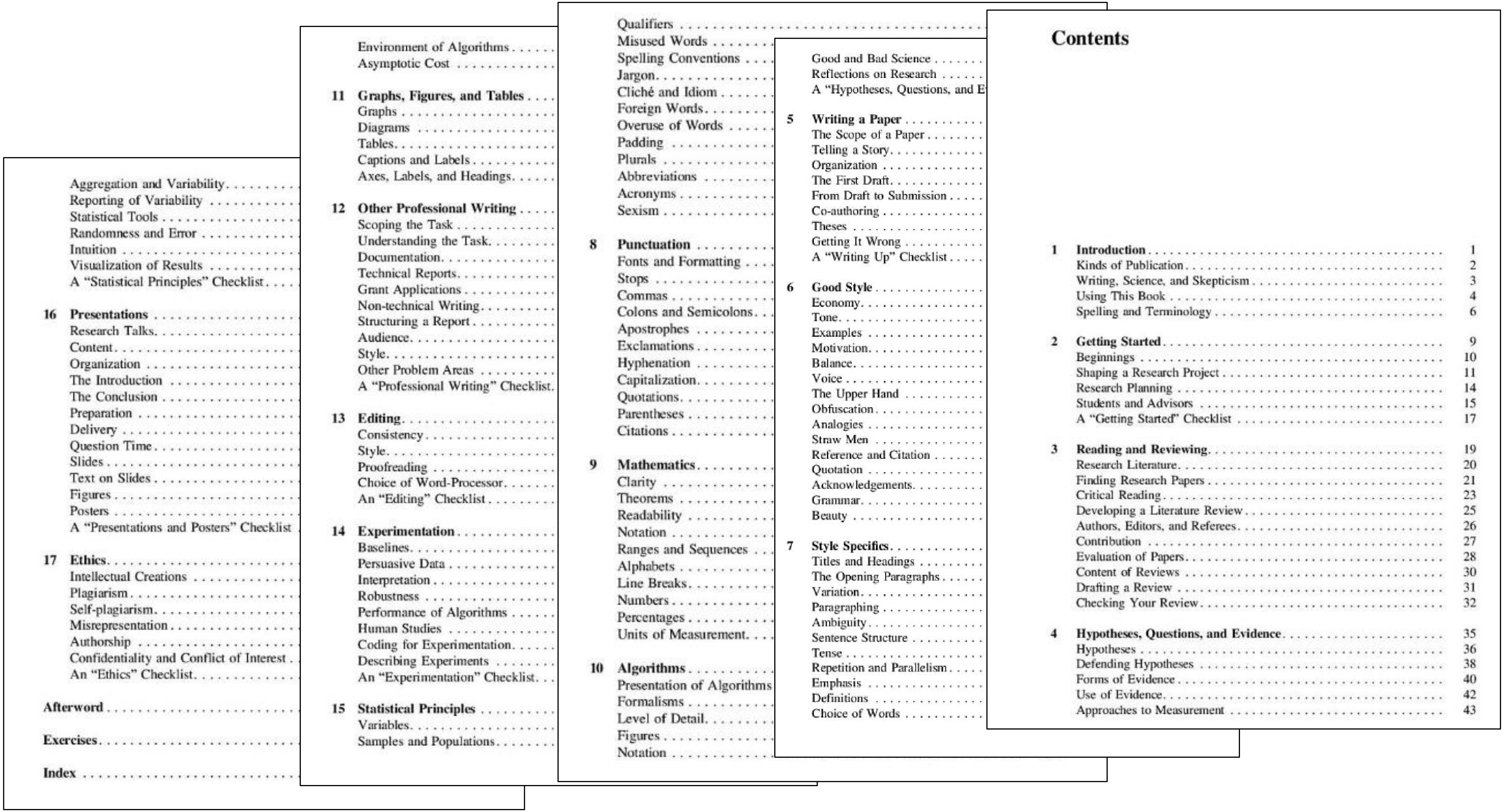

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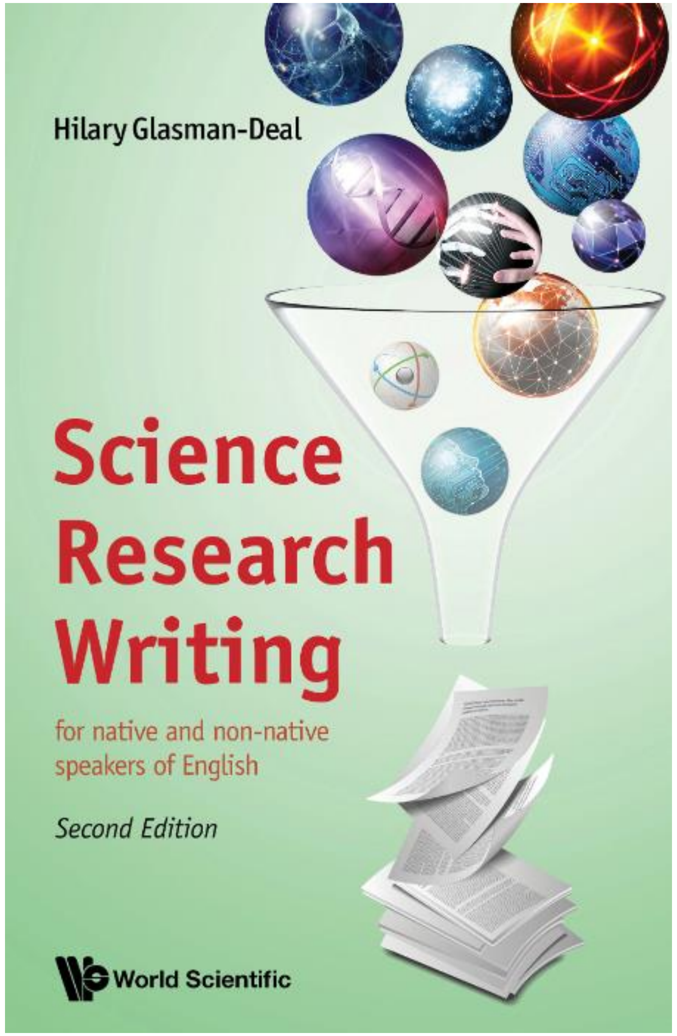

Hilary Glasman-Deal

Science Research Writing

for native and non-native speakers of English

Second Edition

World Scientific

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Where can I get help?

Brock Library COSC Research Guide
https://researchguides.library.brocku.ca/COSC

Email the Library
libhelp@brocku.ca

Ask Us Chat service
https://brocku.ca/library/chat/

Ask Us Chat

Book a Consultation
https://calendar.library.brocku.ca/appointments/researchconsultation

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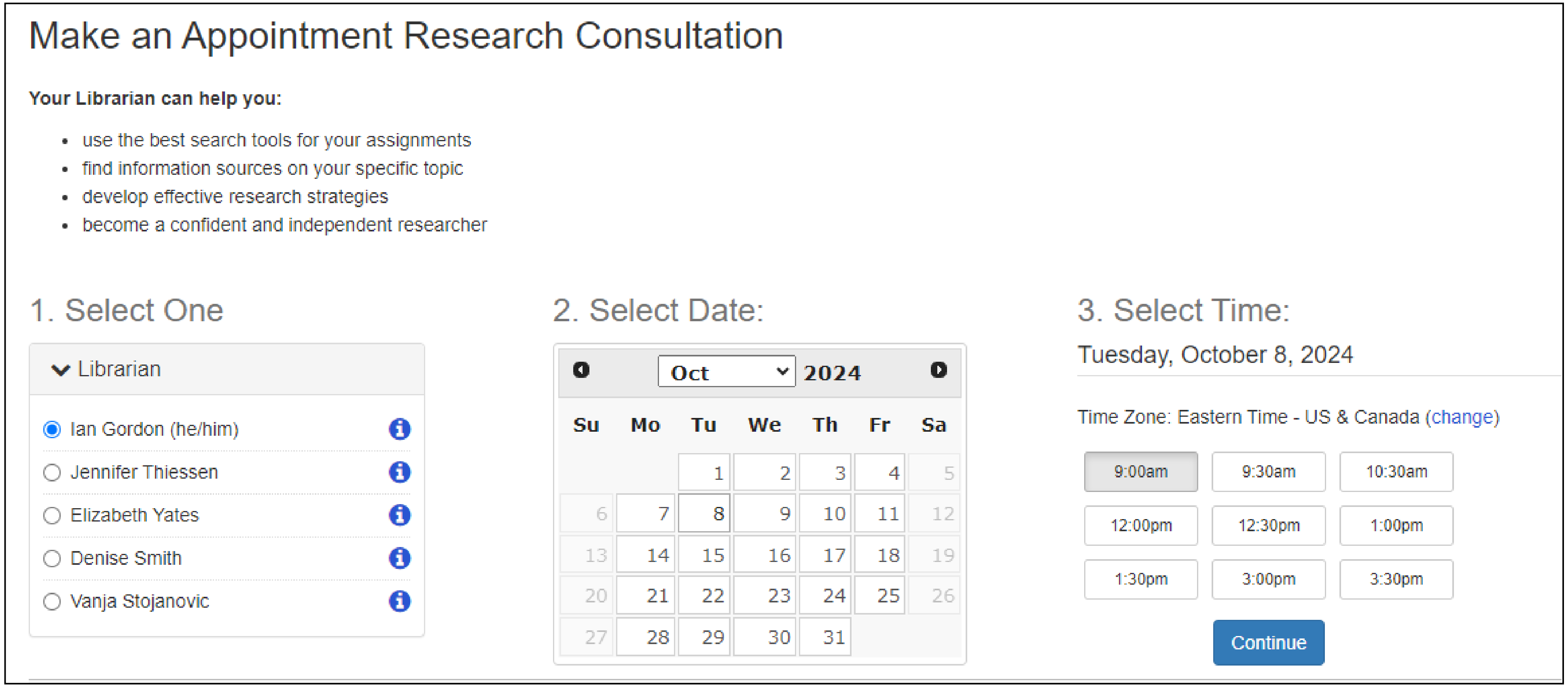

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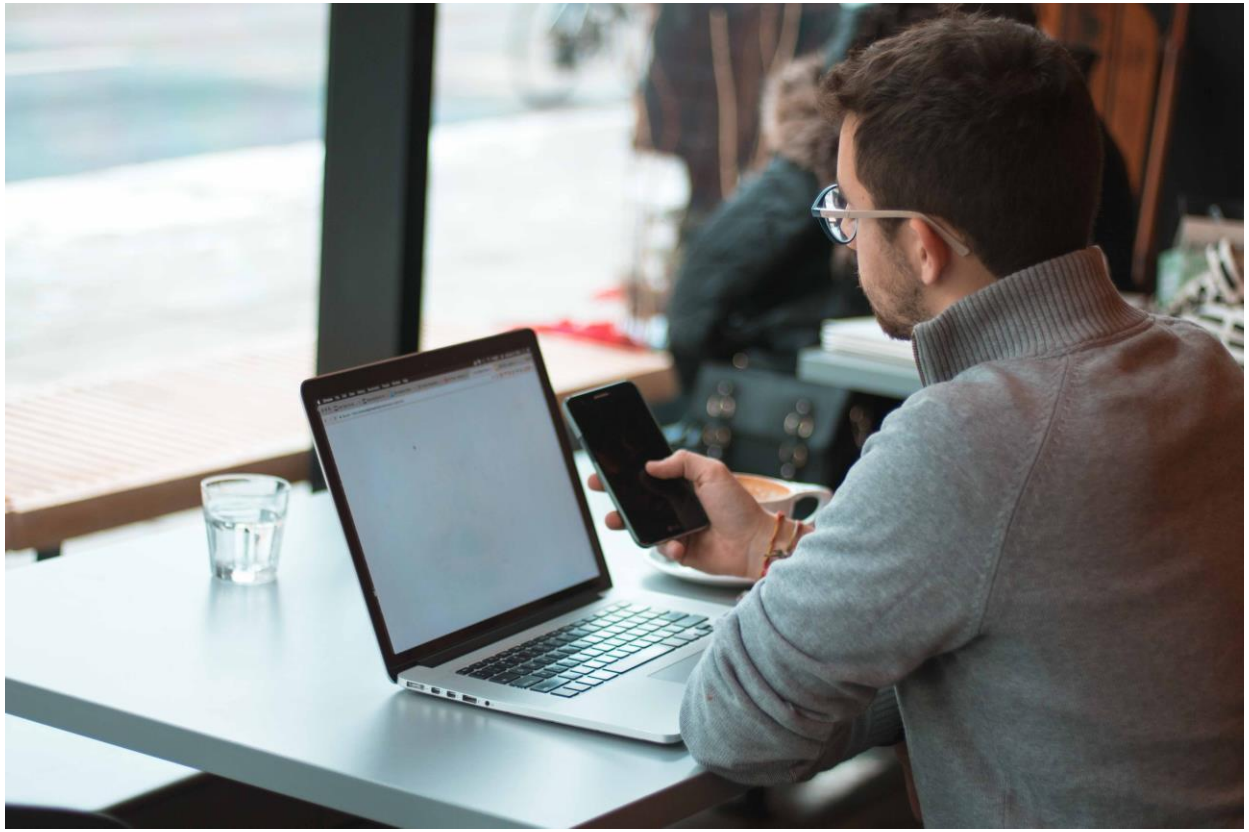

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